Virginia MEDICAL MONTHLY

OFFICIAL PUBLICATION OF THE MEDICAL SOCIETY OF VIRGINIA

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EPHRAIM McDOWELL ISSUE

February 1950

XUM

Seal capillaries with natural clot

Virginia Medical Monthly

Vol. 77, No. 2
WHOLE No. 1172

RICHMOND, VA., FEBRUARY, 1950

$2.00 A YEAR
25 CENTS A COPY

GUEST EDITORIAL

Retreat From Progress

THE Legislative Committee to Study Coordination of Police Functions has recommended to the General Assembly that the Chief Medical Examiner's Office should be transferred to the State Police. This must fill with dismay the many members of the medical profession who labored so arduously to reform the archaic coroner system that existed in Virginia prior to 1946. That the Society's efforts have been a signal success is attested to by articles in the national press lauding our system as it now exists. Only in December 1949, *Coronet* in an article on Medical Examiner Systems had this to say:"—in the early 1930's, Boston was in the lead with its reformed medical examiner law. But today the recently improved Virginia Law is the best model for other states in urgent need of reform."

Commenting editorially on the proposed recommendation, the editor of the *Richmond News-Leader* had this so say:

> "The Chief Medical Examiner's Office, now a part of the State Health Department, is functioning superbly, its facilities are fully available to the State Police and we know of no particular advantage to be gained by transferring the agency bodily to the State Police."

The new recommendation is based upon a well-intended, but erroneous, concept of the 1946 law. What is not well understood is that the Medical Examiner system is primarily a medical fact-finding function delegated solely to physicians. The system permits the integration of medical evidence not only with various law enforcement agencies and prosecutors, but in determining issues at civil law, industrial commissions, health agencies, etc. Law enforcement and aid to criminal prosecution numerically form the least of the medical and laboratory problems that involve a coroner investigation.

A major contention of the Commission is that the transfer of the Chief Medical Examiner's Office to the State Police would provide that agency with a laboratory. This would entirely change the character of the Chief Medical Examiner's laboratory and destroy its usefulness for the purpose for which it was created. This laboratory is essentially a biological one. Under the supervision of the toxicologist, it deals with chemical and biological problems—identification of poisons in human tissues and body fluids, identification and analysis of drugs and chemicals, identification of blood and blood stains, analysis of stains in question of rape, hair and fibre identification and the like. Physicians frequently call upon the laboratory for aid in diagnosis of poisoning of patients under their care. Numerous requests are received for analysis in questions of occupational poisoning. All these studies require a final medical review and interpretation, and must be integrated with findings reported by coroners and pathologists or attending physicians.

A police laboratory is one which deals with general methods that require no medical supervision or opinion. Fingerprinting, moulage studies, firearm identification, arson investigation, restoration of serial numbers, photography, examination of special types of residue (dirt, metal, glass, etc.), handwriting and typewriting identification and

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many other physical methods are examples of work done in typical police laboratories.

There are in the Chief Medical Examiner's Laboratory no facilities for this type of work and for the purposes for which the Medical Examiner system was instituted, none are needed. It would require thousands of dollars of necessary equipment together with a greatly increased personnel to produce such a laboratory. How such an expenditure could be justified when only a hundred miles away the Federal Bureau of Investigation maintains probably the finest crime detection laboratory in the world, fully available at all times to the State Police, is difficult to understand.

Eminent medico-legal authorities, such as Dr. Allen Moritz, Dr. Richard Ford, Dr. Russell Fisher and Dr. Thomas Gonzales, to name a few, have constantly emphasized that the public interest and duties thereto of a medical examiner's office extend into numerous channels which are not related to police activities.

Since the inception of the medical examiner system at least two other states have adopted the statute in its entirety. At the present time, eighteen other states are studying our legislation with a view to its early adoption.

With the utmost cooperation of the Medical Profession of Virginia and with sympathetic interest from intelligent law enforcement agencies, the present Medical Examiner's system has served in the past three years as an example of progressiveness to the rest of the country. To relegate it to the role of a police officer would without question destroy one of the finest things the medical profession has done for the State of Virginia.

Bibliotheca Obstetrica

NAEGELE, FRANZ KARL (1778-1851): An essay on the mechanism of parturition from the German of C. F. Naegele. Edward Rigby (1804-1860) tr. *London,* Callow and Wilson, 1829.

——The obliquely contracted pelvis. Centennial edition. N.Y. Pynson Printers 1939.

——Das Schräg verengte Becken nebst einem Anhange über die wichtigsten Fehler der weiblichen Beckens überhaup. Mainz. Victor von Zabern, 1839.

——Das weibliche Becken, Carlsruhe. C. F. Muller. 1825.

Naegele was born in Düsseldorf. He was professor of medicine and obstetrics and Director of the Lying-in Hospital in Heidelberg. He is best known for his description of the mechanism of labor and his work on deformed and contracted pelves, especially the generally contracted pelvis. He was the first to describe the obliquely contracted pelvis which bears his name. In thirty years he was able to find and accurately describe thirty-five female and two male pelves that showed this deformity. They were found in most of the European clinics. One was that of an Egyptian mummy. The most familiar rule for estimating the date of confinement bears his name. He was a member of medical and scientific societies in Moscow, Paris, Copenhagen, Stockholm, Wilna, Berlin, Bonn, Dijon, Heidelberg, Jassy, Leipsig, Lyon, Mainz. Marseilles, New York, Philadelphia and Rostock.

His *Das Schräg verengte Becken* is extremely rare. The translators of the Centennial edition make the statement that "Very few medical men or rare book collectors have seen a copy." There are only four known copies in this country.

TOTAL COLECTOMY FOR BENIGN CONDITIONS—WITH A CONSIDERATION OF ANAL ILEOSTOMY WITH SPHINCTER PRESERVATION*

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Sphincter saving operations in the treatment of carcinoma of the rectum are prominent in today's surgical literature. The present discussion concerns itself with total colectomy for benign conditions. We are therefore not concerned with the arguments which have been advanced for and against sphincter saving operations in the treatment of malignant disease of the rectum. Furthermore, since it is a total colectomy which is to be performed, this sphincter-saving procedure is designed to avoid not a colostomy, which is a fairly tolerable condition under modern management, but an ileostomy, which, even with the use of a Rutzen bag is at best a trying affair.

The two conditions for which we conceive total colectomy to be most commonly indicated are familial polypoid adenomatosis of the colon, and chronic non-specific ulcerative colitis.

Polypoid adenomatosis of the colon is a familial disease which is most strikingly characterized by the fact that all of the sufferers will inevitably develop cancer of the colon, sometimes several independent cancers of the colon, if they do not first die of some other affliction. Ordinarily the symptoms of adenomatosis of the colon are relatively clearcut with bloody diarrhea and resultant inanition and cachexia. A familial history of a similar affection in other members of the family or a story that several members of the family have died of cancer of the colon is further suggestive of this disease. The symptoms may make themselves known at any time from early childhood, the youngest case reported having been two years old when symptoms began, and cancer may develop as early as the age of fifteen. Many patients, however, do not develop symptoms until middle age or later. We have had one patient, a young man of 27 who was completely asymptomatic and whose disease was brought to light only because his mother was admitted to a hospital with three simultaneous cancers among innumerable polyps of the colon, for which a total colectomy and abdomino-perineal resection were required. Another patient, a woman of 25, developed bloody diarrhea and made the diagnosis herself since her mother had died of cancer of the colon, one sibling had died of bloody diarrhea and two living siblings had already been diagnosed as having polypoid adenomatosis of the colon. Occasionally, however, the disease may be extremely insidious. About two months ago I was asked to see a coal miner who complained of intermittent attacks of sharp, right upper quadrant abdominal pain. The story was not characteristic of any disease complex, and a complete investigation disclosed only an equivocal shadow in the hepatic flexure of the colon on barium enema. It was finally decided to explore the patient for this lesion and by pure chance, during the preoperative administration of an enema, the patient had a large hemorrhage from the bowel. Operation was postponed and the patient sigmoidoscoped. There were innumerable polyps of the rectum as far as the sigmoidoscope could reach, none of the polyps being more than 2 or 3 mm. in diameter. Subsequent exploration demonstrated innumerable small polyps of the entire colon and a small carcinoma at the hepatic flexure, a flat disk—no more than 2 cm. in diameter. However, this apparently early tumor had already metastasized and there were several carcinomatous nodules in the liver. For that reason, no more was done than to resect the colon down to the sigmoid with an ileo-sigmoidostomy. This case illustrates the grave danger which exists for patients with polypoid adenomatosis and underscores the necessity for complete removal of all the polyp-bearing mucosa. A good many authors in this country and abroad shrink from a total colectomy with a permanent abdominal ileostomy and recommend a compromise consisting of resection of the colon down to the upper rectum with an anastomosis with the ileum at this point. Subsequently the rectal segment is repeatedly fulgurated in an attempt to destroy all of the polyps. In patients such as these whom we have described, it is hardly possible to fulgurate the myriad of polyps which exist and, even if all of them are successfully destroyed, it must be expected

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*Presented by invitation before the annual meeting of the Medical Society of Virginia at Old Point Comfort, October, 1949.

that the mucosa which regenerates will retain its genetic predisposition to polyp formation and that some of these polyps in turn will inevitably become malignant. It is true, of course, that Doctor Harvey Stone, Doctor Fred Rankin, and others in this country, and Lockhart-Mummery and others in England, have had long term cures with this combination of procedures. On the other hand, some of the patients so treated have subsequently been reported in the literature to have developed cancer in the remaining segment and it is just in the segment which is left behind that cancer most commonly occurs. Furthermore, it is only reasonable to suppose that a good many patients whose cases have not been reported have undergone the same procedure with subsequent death from cancer in the retained segment. We feel quite strongly that total extirpation of the colonic mucosa is required if the patient is to be assured that death from cancer will not occur. However, there is no need to remove the muscular coats of the rectum nor the sphincter muscles if any end can be gained by preserving them.

One must preface any discussion of the surgical treatment of chronic non-specific ulcerative colitis by emphasizing the fact that this disease is not properly one which belongs in the realm of the surgeon. However, there is at the present time no rational treatment for the disease, and surgeons are in the position of being able to save many lives by prompt ileostomy. Ileostomy for ulcerative colitis should be performed early in the disease, because late in the disease it may fail to preserve life and, in any event, the colon will already have been damaged beyond any hope of redemption. In a small group of cases, after early ileostomy, the colon so far recovers that there is some reason to suppose that a restoration of continuity of the bowel may reasonably be attempted. In these cases it is feasible to restore the continuity of the bowel with reasonable hope of success although it is necessary to anticipate a definite incidence of failure with eventual restoration of the ileostomy. In the next most successful group are the patients in whom the disease is apparently arrested so that there is little or no discharge of blood or pus from the retained colon. Although the bowel remains grossly deformed, such patients gain weight, show marked changes of personality for the better, with apparent arrest of the disease and a remission of all symptoms. In them, total colectomy is not required unless one wishes to run the involved risk in order to do away with an abdominal ileostomy. In another group of patients, although the disease itself is quiescent, it is replaced by something almost as hazardous—a polypoid degeneration of the colon. This development of pseudo polyposis, the so-called "colitis polyposa" of the old German pathologists, carries with it a predictable incidence of cancer in the retained colon in excess of 14%. Furthermore, it has been the sad experience that cancer which develops in such patients is likely to be neglected because of the similarity of the symptoms to those of the original disease. Few, if any, of these patients can be cured of cancer by the time it is recognized. A small number of such patients have been cured of a cancer which was discovered accidentally in the course of a total colectomy for ulcerative colitis. Once pseudo polyposis has developed, we feel strongly that a total colectomy is urgently indicated, and, again, the only question is whether an abdominal or an anal ileostomy is to be performed. In a still less fortunate group of patients, the symptoms of colitis continue unabated or only mildly improved after ileostomy, and the persistent discharge of blood and pus, the continuation of fever and cachexia indicate the necessity for colectomy.

After ileostomy and before deciding upon definitive treatment of the remaining colon, it is well to re-evaluate the status of the colon by repeated barium enemas. There are two small groups of cases of atypical colitis which offer a special and improved prognosis. The first of these is right-sided colitis, a group of cases which were recently recorded by Garlock of the Mt. Sinai Hospital in New York. In these patients, the disease is sharply limited to the right side of the colon—quite unlike the ordinary type of ulcerative colitis in which the disease is most severe in the rectum and sigmoid. In this special group, a right-sided resection with anastomosis between the ileum and the left side of the transverse colon can be successfully achieved. In another and much smaller group of patients with left sided colitis, there is a sharp delimitation of disease in the left colon, ending abruptly in the middle of the transverse colon. We have two such patients in whom it was possible to close the ileostomy and perform a transverse colostomy resecting the distal colon. One of these patients, the wife of a physician, has recently gone through an uncomplicated

pregnancy. Her colostomy is perfectly controlled by irrigation and she now wears no bag or apparatus. In the other patient, we have extrapolated a loop of ileum, anastomosing the proximal end of the loop to the transverse colon and the distal end of the loop to the anus in the fashion to be described below.

The procedure which we have employed is based upon the fact that in both of the conditions for which total colectomy is indicated, there is no need to remove the anal sphincters or the muscular coats of the rectum. The operation is devised to permit a total colectomy in a combined abdomino-perineal operation. In the perineal phase, only the mucosa and sub-mucosa of the anal canal and lower rectum are removed until one passes above the levator ani muscles. In patients with polyposis, we have performed the entire operation in one stage—that is to say, total colectomy and ileostomy, bringing the ileum down to the anus by this technique. Patients with ulcerative colitis will tolerate total colectomy in one stage without any difficulty. If the presence of anal fistulae or sinuses or emotional instability of the patient contraindicate an anal ileostomy, we have had no hesitation in performing a total colectomy with an abdomino-perineal excision of the rectum in a single stage. However, if the colon is so severely diseased that total colectomy is certainly required, the patient with ulcerative colitis can not conceivably be a candidate for the procedure until a preliminary abdominal ileostomy has permitted a partial recovery from the effects of the disease. In the patients with ulcerative colitis, therefore, abdominal ileostomy has been performed in every case, as a preliminary to the total colectomy and anal ileostomy.

Preoperatively, the patients are prepared with sulfasuxadine given by mouth and with sulfasuxadine instilled into the distal loop of the colon through the abdominal mucus fistula. Before operation, an indwelling intestinal tube is passed down into the terminal ileum. At operation, the patient is draped in the combined lithotomy-Trendelenburg position so that the abdominal and perineal phases of the operation can be conducted simultaneously by two teams without redraping. The colon is resected in the usual fashion, except that in the pelvis one may cut much closer to the bowel than would be proper when dealing with carcinoma. The resection is carried down from above to the levator ani. The ileum is then liberated from the abdominal wall and considerable time and effort are devoted to lengthening its mesentery by such sacrifice of vessels as may be necessary to permit the bowel to reach the anus. The procedure here is comparable to that by which one is able to bring a loop of jejunum up to the neck for an ante-thoracic esophagoplasty. In the perineal phase of the operation, a circular incision is made at the muco-cutaneous junction and a tube of mucosa and sub-mucosa dissected up until one is above the level of the levator ani. This tube of bowel is then pulled down through the lumen of a proctoscope which is thus passed up as a hollow cylinder between the layers of the wall of the rectum. The mucosa and sub-mucosa are inside it and the muscularis outside it. An assistant, from above, is then able to make a circular incision on the end of the proctoscope cutting through the outer muscular layers. This permits one to deliver the specimen consisting of the colon and the mucosa and sub-mucosa of the rectum, leaving intact the anal sphincters and the muscular coats of the rectum up to or a little above the levator ani muscles. The ileum is now passed down through this muscular tube and sutured in place by three rows of sutures. The first row of sutures is a continuous 00000 catgut suture between the upper end of this muscular cuff and the outer coat of the ileum. The second row is of interrupted silk sutures between the external sphincter and the outer coats of the ileum. The third row consists of fine silk sutures placed through and through the end of the ileum and the anal skin.

The operative procedure itself does not seem to impose a severe strain upon the patients but the post-operative course has often called for the exercise of a great deal of fortitude on their part. Whereas some patients have had creditable degrees of sphincter control within a period of weeks, others have gone six months or more before attaining any degree of comfort in that respect. Furthermore, during the period of adjustment, there may be severe abdominal cramps and burning of the perianal skin by the diarrheal stools. Because patients with ulcerative colitis almost invariably have severe underlying personality difficulties, we have felt it important to be extremely careful in selecting these patients and many of them have been rejected, as far as this operation is concerned, because it has been felt that they might not be able to tolerate the discomfort involved in the period of adjustment. The effect of

personality problems is particularly demonstrated by our second patient who made a very rapid return to complete continence and well-being and continued in this state for several months until her small son was taken ill with hydro-nephrosis due to an abberant renal artery which necessitated a nephrectomy. She began at once to have a severe diarrhea which ceased only when the boy recovered his health. Since then, she has had several other severe bouts of annoying diarrhea, apparently associated with other personal crises.

We have now performed this operation eleven times. There has been one death, in a patient who developed a slough of the terminal ileum and a pelvic abscess necessitating restoration of the abdominal ileostomy through which she proceeded to have an uncontrollable watery diarrhea which finally produced a chemical disequilibrium which was ultimately impossible to combat. A second patient developed a slough of terminal ileum but ultimately recovered although the scarred anal canal prevented his becoming continent so that his abdominal ileostomy has been restored. In this instance the resected rectal segment had undergone a polypoid alteration so that there was a net gain. In one other patient an ileo-vaginal fistula developed, necessitating a temporary abdominal ileostomy which has not yet been closed. The remaining patients are in various stages of rehabilitation. Our first patient remains the most successful. He was operated upon more than 2-½ years ago and when he began to acquire bowel control six months after operation he rapidly gained some 60 pounds of weight, went to work and has been fully employed in responsible capacities ever since. At times, he has had only one formed stool a day, and at others he has had three or four only semi-formed stools in 24 hours. His diet is unrestricted. Most of the other patients are improving progressively and appear likely to achieve a result which will be satisfactory.

SUMMARY

In familial polypoid adenomatosis of the colon, a total colectomy is required to prevent the occurrence of cancer. In chronic non-specific ulcerative colitis, under varying sets of circumstances, total colectomy may also be required. In performing colectomy for these conditions, it is possible to preserve the anal sphincter and the muscular wall of the anal canal and rectum so that the ileum may be anastomosed to the anal skin with the preservation of sphincter function and fecal continence.

Floral Eponym

JEFFERSONIA

THOMAS JEFFERSON, 1743-1826

THOMAS JEFFERSON, the third President of the United States, was interested in all fields of knowledge. He was especially noted as a horticulturist and for his theoretical knowledge of medicine and was instrumental in introducing vaccination into this country. (Halsey, Robert Hurtin, How the President, Thomas Jefferson, and Doctor Benjamin Waterhouse established vaccination as a public health procedure, N.Y. 1936.)

Jeffersonia are perennial herbs native of North America and Asia. J.diphylla, commonly called the twin-leaf or rheumatism root, is the only species in cultivation.

FEVER: A COMMON SYMPTOM IN CARCINOMA OF THE STOMACH*

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Fever as a symptom of carcinoma of the stomach was frequently referred to in the literature of several decades ago[1,2,3], but today this symptom is often overlooked and it is not even mentioned in some of the current textbooks. It is the purpose of this communication to call attention to this manifestation of gastric carcinoma and to show that it occurs in a fairly high percentage of the patients seen by the clinician.

Method of Investigation.—This paper is the result of a detailed study of the case histories of 69 patients during 81 admissions to the Medical College of Virginia Hospitals in the years 1940 to 1948. All cases were diagnosed either by positive x-ray findings; by gastroscopy or esophagoscopy; by operation, with or without pathologic verification; or by autopsy. The cases were divided into 4 groups as follows:

1. Those showing no fever at any time.
2. Those with fever accounted for by infection, anemia, pyrogenic reactions, or other causes than neoplasm.
3. Those with fever of doubtful origin, i.e., accompanied by increased white blood counts but without other evidence of infection.
4. Those whose fever could be ascribed to no other cause than neoplasm.

Any oral temperature of 99 degrees Fahrenheit or above was considered as fever in this series. The temperature curves studied were restricted to the pre-operative period in order to eliminate fever due to post-operative reactions or infections. When patients were not subjected to operation, the complete temperature chart was considered.

Admission temperatures were not used in calculations in order to eliminate psychogenic causes in so far as was possible. Where isolated fever recordings could be attributed to transfusion or pyrogenic reactions, these were eliminated from the evaluation of the curve. Since fever may be associated with pernicious anemia, the single case in this series had his fever ascribed to the blood dyscrasia and was placed in group 2, even though he had been treated with liver extract for several months prior to admission, and his hemoglobin was 59%, with a red cell count of 4 million on entry. Since "severe secondary anemia, as from chronic blood loss, is not a cause of fever",[4] this was not considered a pyretic factor here, although most of our patients did have hypochromic anemia.

At first, it was arbitrarily decided to place all patients with admission white counts of over 10,000 into the group having fever of infectious origin (group 2). However, some patients with counts in this category had no fever, and were accordingly placed in group 1. Others had counts such as 10,100; it was felt that such counts were within the limit of the error of the technique, and hence, in the absence of other conditions causing fever, these patients were placed in group 4. When increased white counts were associated with definite evidence of infection as in peritonitis or bronchopneumonia, they were placed in group 2, those with fever of known basis.

There remained, however, a number of patients with elevated white counts who had neither urinary or respiratory tract infection nor other pyretic pathology. It is believed that these patients had elevated white counts as a result of the neoplastic process itself. "Malignant neoplasms may cause leukocytosis when the neoplasm is growing rapidly. When the liver, gastro-intestinal tract or bone marrow is involved, the count may be exceptionally high".[5] These patients were put into group 3; that is, their fever was considered of doubtful origin, most probably carcinomatous yet possibly infectious. In view of the fact that leukocytosis is an accepted pathologic phenomenon of gastro-intestinal carcinoma, it is our belief that these cases actually belong in group 4.

Dehydration was another factor which was considered. However, few of the patients were severely dehydrated, those with dehydration were promptly

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corrected by intravenous infusions, and there were no fever curves which returned to normal and remained so after dehydration was overcome. Other causes of fever such as central nervous system diseases, heat stroke, heart failure, thyroid disease, liver disease other than metastatic liver disease, paroxysmal tachycardia or cutaneous abnormalities were not present in the patients studied.

Drug reactions may be manifested by fever. Among the drugs known to cause temperature elevations are the sulfonamides, iodides, morphine, barbiturates and belladonna. Antibiotics were not administered unless infection was present and the fever was then attributed to the latter. Iodides were given to two cases with coexistent syphilis, carcinoma being proved subsequently by gastroscopic examination or post-mortem. Both cases were placed in group 4 because both had exhibited fever for several days before the medication was administered (cases A19763 and 32317, 1st admission). Morphine was given to many of the post-operative or terminal patients, but post-operative charts were not studied, and the number of terminal cases with fever unrelated to other causes was relatively small. Of our 17 terminal cases, five had no fever during the period studied. Twelve of them had elevated white counts; 8 were placed in group 2 because of infection; 2 were placed in group 3, and 2 in group 4. The two cases in group 4 received codeine rather than morphine. Barbiturates and belladonna were given to practically all the patients at some time, and the possibility that fever resulted from the intermittent administration of these agents is conceded. Because the incidence of drug fever is relatively low, we feel that it has not greatly influenced our statistics.

GROUP 1. PATIENTS WITHOUT FEVER.
TOTAL—12 (14.81%).

Case Number	History in months	Days observed Pre-operatively	Metastases	Comments
B18160	¾	5	Present	
A29218	2 (?)	3	None found at operation	Anaplastic CA with ulceration.
42527	¾ (?)	2	Present	
A20903	11	4	Present	Terminal Case. WBC 13,500. Mucosa intact.
31660	3	13	Present	Metastases to liver.
A28391	¾	7	Present	Terminal case. Mucoid carcinoma with ulceration. Auricular fibrillation. Post-operative wound disruption.
A23672	24-36 (?)	2	?	Terminal case.
85555	1	4	?	Tumor at cardia diagnosed by esophagoscopy.
82836	2	1	Present	
85641	3	3	Present	
79614	12	5	Present	Terminal case, with broncho-pneumonia and 19,000 WBC.
B32466	4	2	Present	Terminal case, second admission. WBC 12,750.

RESULTS

Of the 81 admissions studied, twelve (14.81%) had no fever during the period studied.

Twenty cases had fever ascribable to infection or other cause than neoplasm. Group 2 therefore comprises 24.69% of the cases in our total series. In this group, fifteen had white counts above 10,000 while 5 had normal counts on admission. Of the latter, case B18943 received daily infusions of a protein hydrolysate preparation and the specific dynamic effect of the ingested amino acids might have been a factor in producing his elevated temperature. Case A40005 had a normal count on admission which rose to 18,050 within one week, during which time he had received multiple infusions of blood and glucose. Patient B17952 was in shock from massive hematemesis on admission; his white count rose to 11,000 after four transfusions. Pa-

GROUP 2. PATIENTS WITH FEVER OF INFECTIOUS OR OTHER ORIGIN.
TOTAL—20 (24.69%).

Case Number	WBC on admission	Urine WBC/HPF	Comments
B16961	24,850		Tuberculous lymphadenitis of neck.
B14208	12,700		Pernicious anemia.
B9279	20,800		Perforated carcinomatous ulcer with peritonitis.
A40005	6,800		WBC rose to 18,050 after admission. Intravenous fluids and 2 transfusions.
A37184	normal		Pneumococcal abscess of abdominal wall.
B17952	10,000		In shock from hematemesis on admission. WBC rose to 11,000 after 4 transfusions.
B18943	normal		Intravenous protein hydrolysate probably a factor in producing fever. Also intravenous blood, plasma and glucose.
A31542	13,500	10-12	
A30542	19,600		Terminal case. Abscess of abdominal wall with gastric fistula.
A27595	12,350	"loaded"	
A28381	normal	250-300	Lung metastases.
C57105	12,300	"loaded"	Terminal case.
A3138	16,900	20-25	Terminal case. Arteriosclerotic heart disease.
A28638	20,050	20	Terminal case. Multiple transfusions.
64256	11,000	5-15	Terminal case. Second admission. Jaundiced.
32317	19,000		Terminal case. Perforated carcinomatous ulcer with peritonitis. Bronchopneumonia.
79634	19,000		Thrombophlebitis. Arteriosclerotic heart disease.
79634	12,100		Same as above. Second admission.
87780	12,750	2-6	Admitted for urinary retention.
A11904	11,000	8-12	Avitaminosis. Peritoneal metastases. Internal hemorrhoids. Hypertrophic arthritis.

GROUP 3. PATIENTS WITH FEVER OF DOUBTFUL ORIGIN.
TOTAL—10 (12.35%).

Case Number	Admission WBC	Urine WBC per HPF	Days observed	Number of readings	No. and % of readings above normal		Comments
A9454	13,950	neg.	16	82	54	65.8%	Positive Wassermann: Metastases to mesenteric nodes.
A32622	11,750	neg.	7	22	9	40.9%	Admission WBC 11,750 with temp. normal; WBC to 13,000 6th day with temp. subnormal.
A33910	12,450	3-5	9	31	3	9.6%	
27468	10,650	neg.	3	19	7	36.8%	
A27671	10,400	neg.	2	4	2	50.0%	Ulcerated carcinoma.
A4999	10,300	1-2	19	35	18	50.3%	Ulcerated carcinoma.
84616	13,000	neg.	13	48	33	68.7%	
80309	12,300	neg.	5	25	17	68%	Terminal case. Morphine given.
A4549	12,700	0-1	6	21	1	4.7%	Ulcerated carcinoma.
A1747	20,000	5-10	20	83	35	42.1%	Day after admission, WBC was 10,900 and urine neg.

tient A28381 had 250 to 300 white cells per urinary high power field despite a normal white blood count. In case A3184 there was an abscess of the abdominal wall from which type three pneumococci were cultured; despite his normal white count, an infectious origin for the fever could not be ruled out.

Ten cases (12.35%) were classed as having fever of doubtful origin. Nine of these had white counts ranging from 10,300 to 13,950; their urines were negative for leukocytes; and no definite focus of infection could be demonstrated. Three of these patients were shown to have ulceration in their tumors (see discussion). One case had an admission white cell count of 20,000, with 5-10 urinary white cells, but his blood count was 10,900 and his urine was negative on the second day. He was observed for 20 days, with 83 temperature recordings taken; 35 of these were above normal.

Thirty-nine patients (48.15%) had one or more temperature readings above 99 degrees not ascribable to any known cause except neoplasm. It is assumed therefore that this fever resulted from the malignant process.

Fourteen (35.89%) of these cases had temperatures ranging up to 100 degrees but no higher; 19 (48.71%) had readings up to 101 degrees; 4 (10.25%), to 102 degrees and 2 (5.12%), to 103 degrees. None had fever above 103 degrees.

In these 39 patients placed in group 4, readings were taken two to six times daily, the average case being observed for 13 days and the average number of readings per patient being 44. Statistically speaking, in the average patient of this group, 40.8% of the readings taken during his pre-operative or non-operative hospital stay were above 99 degrees.

DISCUSSION

Our results show that fever is a symptom seen in about 50% of the patients with carcinoma of the stomach. They compare very closely with the figures given by McCrae[6], who observed that fever was present at some time in 74 out of 150 patients. In Friedenwald's series[7], 43% of the patients showed fever at some time during the course of their disease. According to Briggs[8], the incidence is 33.8%.

The type of fever seen in our cases was intermittent rather than continuous. Rises above normal temperature occurred irregularly and were not sustained. During any twenty-four hour period, a typical patient would have several normal readings and perhaps one or two supernormal ones. In some cases fever appeared only once or twice during the course of a week's observation. There was no predilection for either a nocturnal or diurnal occurrence.

Briggs[8] grouped his cases of febrile gastric carcinoma into 3 categories according to the type of fever exhibited: 52% showed isolated temperature rises not lasting more than 24 hours; 36% had intermittent fever lasting from 2 days to 2 weeks, with normal periods between; 12% had continuous fever. In 1923 he reported[9] two cases in whom, as he said, the accompanying fever "assumed the dignity of a major sign and symptom of the disease". Hampeln[10] is credited by him as having been the first to point out that a high septic intermittent fever with chills and sweats, lasting over long periods and simulating malaria, could be caused by cancer of the stomach.

Fever of neoplastic origin is generally thought to be due to a pyretic substance which is released from the cytoplasm of cells invaded by the neoplasm or, perhaps, of neoplastic cells which have outgrown their blood supply[4,11]. The fever may be similar in some respects to that seen after cardiac infarction. Among neoplastic growths, lymphomas, tumors of the kidney, the lung, the liver and the gastro-intestinal tract are said to show the highest incidence of fever. Because infection is so frequently associated with pulmonary carcinoma, it is difficult to evaluate the role of each in the genesis of this symptom. The liver is one of the two main sources of body heat, and the fever which is seen rather frequently in patients with primary carcinoma of the liver may possibly be related to altered metabolism of the organ as a whole as well as to cytoplasmic necrosis.

Since ulceration presents definite evidence of a necrotic condition, many of the older writers felt that the higher incidence of fever in gastro-intestinal carcinomas was related to their greater tendency to become ulcerated. For technical reasons we were unable to make a comparative study of patients with proved non-ulcerating carcinoma of the stomach, ulcerating carcinoma of the stomach, and non-ulcerating carcinoma elsewhere. However, we did survey our charts in an attempt to correlate the presence or absence of ulceration to the presence or absence of fever. It was considered preferable to use operative and pathological reports rather than

GROUP 4. PATIENTS WITH FEVER DUE TO NEOPLASM. TOTAL—39 (48.15%)

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Case Number	Sex	Age	Days Observed	Total Number of Readings	Maximum Oral Temperature and Number of Times Observed		Average Temperature and Number of Readings Used		Range of Readings for Average Temperature Determination					Per Cent of Readings Above Normal	Length History in Months	Metastases P= Present	Ulceration P= Present
									Below 99	99 to 100	100 to 101	101 to 102	102 to 103				
A11065	M	77	16	48	100.0	1	98.43	46	38	7	1			17.4	6	P	P
A36031	M	55	9	28	99.0	2	98.04	27	25	2				7.4	1	?	?
A37816	M	64	2	4	99.4	1	98.75	4	2	2				50.0	6	P	Absent
A41835	F	52	10	21	99.2	1	98.11	20	17	3				15.0	12	P	?
B32466*	M	51	9	22	99.8	1	98.58	21	13	8				38.1	2	P	P
B23037	M	65	2	6	99.6	1	98.96	5	3	2				40.0	8	P	?
B18901	F	44	9	50	99.6	1	98.66	49	30	19				38.8	24	P	?
B18794*	M	34	14	76	100.2	1	98.35	75	57	17	1			24.0	3	P	?
B13255*	M	52	13	49	99.4	1	97.90	48	44	4				8.3	13	?	?
B13255†	M	52	11	29	100.2	2	98.4	28	24	2	2			14.3	14	?	?
B15292	M	67	14	40	102.2	1	99.02	38	18	13	6	0	1	52.6	6	P	?
A36192	F	38	2	8	100.0	3	99.6	7	1	3	3			85.7	24	P	P
A27671*	M	51	2	5	99.8	1	98.80	4	2	2				50.0	3	P	?
A32312	F	50	10	34	100.2	1	98.86	33	12	19	2			63.6	12	P	?
A19763	M	66	17	95	101.2	1	99.25	93	33	40	18	2		64.5	2	?	?
62639*	F	44	12	25	99.6	1	98.52	24	21	3				12.5	36	P	P
62639†	F	44	4	14	100.6	1	99.27	13	7	1	5			46.2	48	P	P
A29969	M	67	24	74	99.8	1	98.22	73	60	13				17.8	18	P	?
50466	M	67	7	24	100.0	1	98.51	23	17	5	1			26.1	8	P	?
A2509	M	54	11	30	100.0	1	98.66	29	16	12	1			44.8	8	P	?
A21297*	M	48	11	27	100.4	2	98.35	26	22	2	2			15.4	3	P	Absent
A21297†	M	48	9	21	99.4	1	97.93	20	19	1				5.0	5	P	?
A27524	M	51	7	31	100.4	1	98.8	30	17	11	2			43.3	6	P	?
64256*	M	56	20	45	100.4	1	97.99	44	36	3	5			18.2	6	P	?
77219	M	71	5	18	100.0	3	99.2	17	3	11	3			82.4	5	P	?
32317*	F	32	39	93	100.2	1	98.67	92	58	30	4			36.9	1	?	?
81410	M	51	16	60	101.2	1	98.29	59	46	10	2	1		22.0	4	P	P
A1129	M	45	9	32	99.6	1	98.43	31	24	7				22.6	4	P	?
89705*	M	72	4	21	100.0	5	99.31	20	7	8	5			65.0	9	?	?
83843*	F	70	4	22	100.8	1	99.45	21	2	16	3			90.5	1	None at op.	?
83843†	F	70	4	21	100.4	2	99.32	20	5	10	5			75.0	6	?	?
7528	M	52	40	135	101.6	1	98.41	81	55	20	5	1		32.1	12	?	?
A4549†	M	63	4	21	102.4	1	99.43	20	5	12	2	0	1	75.0	3	P	?
A17225	M	85	60	212	100.8	1	97.90	140	124	14	2			11.4	?	?	?
A15914	F	57	8	18	100.0	1	99.01	17	7	9	1			58.8	36	P	?
B18794†	M	34	25	63	99.4	1	97.81	62	59	3				4.8	6	P	P
29008	M	65	20	55	100.2	1	98.78	54	27	26	1			50.0	12	P	Absent
B9663	F	66	14	38	99.8	1	98.60	37	29	8				21.6	9	P	P
89705†	M	72	16	97	101.0	2	98.26	96	74	10	10	2		22.9	9+	?	?
Average		13	44											40.8	10.3		

*First admission. †Second admission.

to rely on x-ray evidence of ulceration. Unfortunately, in 28 of the 39 cases in group 4, either no operation was performed, or the stomach was not opened or removed because surgical cure was deemed impossible. In only 11 cases could the condition of the mucosa be ascertained. Of these, 3 were reported as having intact mucosa, and definite ulceration in 8 was noted, either by the pathologist or the surgeon. In contrast, among our twelve cases having no fever (group 1), ulceration was noted in two. From this, therefore, one can only conclude that fever may occur in the absence of ulceration; conversely, ulceration may occur in the absence of fever. This statement is in agreement with the study made by Briggs[8], who also pointed out that ulcerations in tumors are apt to cause infection of adjacent tissues, and, with this, an increase in the percentage of fevers arising from complications. As he put it, the occurrence of ulceration does not increase the liability to fever except as it produces complicating infections in surrounding structures.

Metastatic lesions, especially those to the liver, have been said to be a factor in the production of pyrexia. The majority of our cases are far-advanced when they present themselves for admission to our ward service; our series, therefore, does not include sufficient cases of proved non-metastatic gastric carcinoma to permit statistical evaluation of the significance of metastatic lesions in the production of fever. Briggs[8] attempted to make such an evaluation under a similar statistical handicap and came to the conclusion that the presence of metastases does not seem to alter the occurrence of fever to any extent.

Friedenwald[7] stated that fever is a late manifestation of the disease, occurring in 25% of the cases during the first 6 months and 74% after 6 months. Brown[12], Hardy[12] and Bockus[14] also state that fever is more common in the later stages of gastric carcinoma. We are unable either to verify or disprove this statement on the basis of the cases available to us for study. In our opinion, there are innumerable unsurmountable difficulties imposed in the way of correlating appearance of fever and duration of other clinical symptoms, both from the view point of obtaining accurate statistics and of making interpretations therefrom.

Among the difficulties which might be mentioned are those related to the determination of disease duration. If the onset is marked by a sudden appearance of nausea, vomiting or other abnormal phenomena, then the patient can usually date the onset accurately. If, however, the disease manifests itself gradually by vague symptomatology, it is much harder for him or the clinician to determine onset. In patients with a history of functional gastro-intestinal symptoms, it is likewise a task to decide exactly when organic symptoms began. The situation is similar in patients with disturbances previously due to chronic alcoholic or atrophic gastritis. Often, with less intelligent patients and with senile ones having memory impairment, it is practically impossible to ascertain onset, and therefore duration, with any degree of certainty.

In addition, there are many other unevaluated factors precluding an attempt to draw any relationship between duration of clinical picture and appearance of the one symptom, fever. Duration of any clinical picture depends on time of appearance of the initial symptom, which, in any one patient may be malaise, anorexia, vomiting, hematemesis or epigastric distress, to mention a few. Each of these symptoms depends on a particular feature of the pathologic lesion, which may be either its location, its macroscopic or microscopic characteristics, or the physiologic abnormalities produced by it, either within the organ from which it originates, the organs or tissues to which it metastasizes, or the entire body itself. If fever is produced, as it is thought, because of neoplastic necrosis, it is hard to conceive why it should have any relationship to the appearance of vomiting, which occurs when the pylorus is obstructed, or to the onset of dysphagia which is dependent upon the development of obstruction at the cardia, or to the appearance of "indigestion" resulting from an entirely different pathological characteristic such as achlorhydria.

SUMMARY AND CONCLUSIONS

The charts of 69 patients during 81 hospital admissions for carcinoma of the stomach were studied in relation to the presence of fever and to its etiology. 14.81% of the patients had no fever; 24.69% had fever associated with infection or other pathological conditions exclusive of neoplasm. 12.35% had fever of doubtful origin; it was probably neoplastic but infection could not be entirely ruled out. 48.15% had fever unrelated to any cause besides neoplasm.

It is concluded that low-grade intermittent fever is a frequent sign of carcinoma of the stomach. When infection is eliminated, it will still be present in approximately 50% of the patients with this disease.

REFERENCES

1. Freudweiler, M.: *Deutsch Arch. f. klin. Med.* **64**:544 (1899).
2. Osler, W., and McCrae, T.: Cancer of the Stomach, P. Blakiston's Son & Co., Philadelphia, 1900.
3. Smithies and Ochsner: Gastric Cancer, W. B. Saunders & Co., Philadelphia, 1916.
4. Beeson, P. B.—in McBryde, C.: Signs and Symptoms, J. B. Lippincott Co., Philadelphia, 1947, pg. 152.
5. Wintrobe, M.: Clinical Hematology, Lea & Febiger, Philadelphia, 1946, pg. 167.
6. McCrae, T.: Osler's Principles & Practice of Medicine, 12th edition, 1935, pg. 483.
7. Friedenwald, J.: *Amer. J. Med. Sci.* **148**:660 (1914).
8. Briggs, L.: *Amer. J. Med. Sci.* **166**:846 (1923).
9. Briggs, L.: *Med. Clinics N. Amer.*, May, 1923, pg. 1491.
10. Hampeln, P.: *Ztschr. f. Klin. Med.* **8**:221 (1884).
11. Wells, H. G.: Chemical Pathology, W. B. Saunders, Philadelphia, 1925, pg. 77.
12. Brown, T. R.—in Cecil, R.: Textbook of Medicine, W. B. Saunders, Philadelphia, 1947, pg. 723.
13. Hardy, J. A.: A Synopsis of the Diagnosis of the Surgical Diseases of the Abdomen, C. V. Mosby, St. Louis, 1945, pg. 141.
14. Bockus, H. L.: Gastroenterology **1**: W. B. Saunders, Philadelphia, 1946, pg. 664.

Reports No Unfavorable Reaction From Arthritis Treatment With Acth.

Two patients crippled with arthritis who have been undergoing treatment with ACTH—one since May 5 and the other since June 6—are experiencing continued relief under maintenance dosages without any serious reactions.

This report is made by Dr. David E. Markson, associate professor of medicine at Northwestern University Medical School, Chicago, in the October 15 J.A.M.A.

The medical profession has been particularly concerned about the possibilities that ACTH (pituitary adrenocorticotropic hormone) may have toxic effects after prolonged usage although its administration brings miraculous and immediate relief to patients suffering from arthritis.

One patient was treated in the Wesley Memorial Hospital, Chicago, for four months and the other for three months. Upon their discharge they were continued on maintenance dosage of the compound and checked at weekly intervals.

"Serious reactions or symptoms from treatment have not been noted," says Dr. Markson. "It would be presumptuous at this point in the investigation of its effect to consider ACTH as a cure for arthritis. However, in my opinion no other agent could have accomplished so much in so short a time. Only the future will give the final answer to the possible dangers from further prolonged treatment with this endocrine substance.

"It has not been considered that these patients are cured of arthritis as they both have continued their maintenance dosage of the compound. In both of the patients, the return to the approximation of their original status was noted when administration of the medicament was discontinued for three days. It is believed that, as in the treatment of diabetes, the maintenance dosage must be continued indefinitely.

"It is believed that ACTH has opened a new approach to the treatment of rheumatoid arthritis, and that the endocrine substance, like insulin in the treatment of diabetes, may keep these patients comfortable and restore them from invalidism to productive, useful lives in their former occupations."

RELATION OF PITUITARY-ADRENAL FUNCTION TO THE RHEUMATIC DISEASES*

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According to Seyle,[1] experimental and clinical observations have shown that, in addition to the specific adaptive reactions such as serologic reactions to specific antigens, muscular hypertrophy subsequent to physical work, proliferation of the epidermis where the skin is exposed to pressure or friction, there are certain physiologic mechanisms which help to raise resistance to damage as such. In these latter reactions the endocrine system plays a prominent part and they occur irrespective of the specific nature of the evocative damaging agents.

The sum of all those non-specific, systemic reactions of the body which ensue upon exposure to stress and strain has been termed by Seyle[1] as the General Adaptation Syndrome. This stress and strain may be psychic or emotional and physical, such as cold, burns, surgery, infection, trauma, and drugs. The syndrome is characterized by a number of morphologic and functional changes. Among the most prominent of these are enlargement of the adrenal cortex with increased corticoid hormone secretion, involution of the thymus and other lymphatic organs, gastro-intestinal ulcers, and certain metabolic changes and variations in the resistance of the organism. If an individual is continuously exposed to stress, the resulting General Adaptation Syndrome evolves in three distinct stages.

Stage 1.—Alarm reaction—sum of all systemic reactions due to sudden exposure to stress to which the organism is not adapted. Some of these phenomena are only passive and represent signs of damage or shock such as hypothermia, hypotension, hypochloremia, hemoconcentration, increased capillary permeability, and depression of the central nervous system; others are manifestations of active defense against shock such as adrenal cortical enlargement, increased corticotropin and corticoid production, hyperchloremia, etc. Usually the alarm reaction evolves in two distinct phases, the phenomena of shock being followed by those of counter-shock.

Stage 2.—Stage of resistance—sum of all non-specific systemic reactions elicited by prolonged exposure to stress and strain to which the organism has become adapted. It is characterized by an increased resistance to the particular agent to which the body has been exposed and this is usually accompanied by a marked decreased resistance to other types of stress. Essential hypertension is said to fit into this stage.

Stage 3.—Stage of exhaustion—represents the sum of all non-specific systemic reactions which ultimately develop as the result of very prolonged exposure to stress or strain to which adaptation has been developed but could no longer be maintained. In this stage there is atrophy and hypofunction of the adrenal cortex.

The adrenal cortex has three main functional types of hormones or corticoids:

1. *Mineralo-corticoids* control inorganic metabolism of Na-Cl-K-H_2O. This corticoid causes urinary retention of sodium and chloride and increased excretion of potassium. The most potent electrolyte regulating adrenal steroid is 11-desoxycorticosterone which has been synthesized and called DOCA. There is no direct way of measuring this corticoid in the blood or urine.

2. *Glucocorticoids* "S" or sugar hormones—control organic metabolism. This hormone causes increased blood sugar level, increased liver glycogen stores, increased conversion of protein to carbohydrate (gluconeogenesis), increased mobilization and utilization of fat, increased renal clearance of uric acid in normal and gouty patients, lysis of lymphoid tissue, and marked decrease in circulatory eosinophiles. Its activity is directly measured by the 11-oxycorticosteroids in the urine. Compounds A-B-E-F of Kendall belongs in this group.

3. *Androgens or Sex Hormones* ("N" hormones)—cause retention of nitrogen and protein within the body and control secondary sex characteristics such as hair, weight, voice, size of clitoris. Activity is measured by the presence of the 17-Ketosteroids in the urine. In the male two-thirds of the androgens come from the adrenal cortex and one-third from the

*Read before the Seaboard Medical Association of Virginia and North Carolina at Old Point Comfort, Virginia, December 8, 1949.

testes; in the female all the hormone comes from the adrenal cortex.

The adrenal cortex contains life maintaining and life saving substances which are increased in the alarm reaction and markedly decreased in the stage of exhaustion.

The theory is that the stress or strain stimulates the hypothalamus, which in turn stimulates the anterior pituitary to liberate adrenocorticotropic hormone or A C T H, which then stimulates or causes hyperfunction of the adrenal cortex and, if the stimulation is prolonged, the adrenal cortex becomes exhausted and results in hypofunction.

To prove this theory you can give A C T H to a normal person and show hyperfunction of adrenal cortex by the presence of oliguria, increased specific gravity of the urine, elevated blood sugar, and impaired glucose tolerance, retention of sodium, excretion of potassium and uric acid, high levels of 11-oxycorticosteroids and 17-Ketosteroids in the urine, and fall in circulating eosinophiles.

Prolonged use of A C T H may cause exhaustion of the adrenal cortical function and reversal of the above findings. The fall in circulation eosinophiles affords the most sensitive clinical indicator of adrenal cortical activity.

On the basis of earlier animal experiments by Long[2] and others it was shown that epinephrine was capable of stimulating an intact pituitary-adrenal-cortical system. It was found that small doses of epinephrine at 6 hour intervals resulted in moderate stimulation of the adrenal cortex as shown by fall in eosinophiles and urine steroid excretion.

Adrenal cortical hyperfunction or corticoid stimulation causes disintegration of lymphocytes with liberation of antibodies from this lymphatic tissue and may play an important role in immunity and allergy since lymphatic tissues store antibody globulins.

In allergic states such as asthma, periarteritis nodosa, hay fever, etc., there is an increase in eosinophiles which is also seen in exhausted state of the adaptation syndrome.

During the alarm reaction, as following surgical procedures, the bleeding and coagulation times are decreased, platelets increased, and fibrin formation accelerated, which may account for the frequency of phlebothrombosis in post-operative cases.

Continuous exposure to certain types of stress or strain such as cold, fright, etc., in rats on high sodium and protein diet and sensitized by unilateral nephrectomy, causes hypertension, periarteritis, hyalinization and inflammation of the renal arterioles and formation of fibrous nodules in the heart which resemble the Aschoff nodules of rheumatic fever. In these animals the adrenal cortex is found to be hypertrophied and the same changes can be produced by A C T H or D O C A. Perhaps in these conditions there is an imbalance of the mineralo-corticoid which takes place under certain conditions of stress, strain, diet and genetic predisposition. The same changes in humans may take place under certain conditions of stress and strain.

Gastro-intestinal ulcers are frequently seen during the shock phase of the alarm reaction as in burns (Curling's ulcer), or in intense emotional excitement (air raid ulcers) as seen during the "blitz" in London.

Adaptation to our surroundings is one of the most important physiologic reactions in life, according to Seyle[1]; he even goes so far as to say that the capacity of adjustment to external stimuli is the most characteristic feature of living matter. It is not unexpected, therefore, that some of the most common diseases of man appear to be diseases of the adaptation mechanism. There is increasingly more evidence to show that the diseases of adaptation play the same important role in pathology as the General Adaptation Syndrome in physiology.

Interest in the General Adaptation Syndrome has recently received a further impetus as a result of investigations suggesting that some of the most important diseases of clinical medicine, such as hypertension, nephrosclerosis, and the collagen disease, may represent by-products of the endocrine reactions which are at play in the General Adaptation Syndrome.

One may wonder why, and doubt that, nature would develop such a defense mechanism which would ultimately defeat its own purpose. However, serum sickness and anaphylactic reactions are excellent examples of essentially useful defense mechanisms which can cause death. In children who have renal failure due to kidney disease, renal rickets develops due to excess parathyroid secretion. The retention of phosphorus, with a subsequent decrease in the serum calcium due to the renal insufficiency, is combated by a compensatory parathyroid hyperplasia in an attempt to elevate the serum calcium.

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Yet, this defense mechanism defeats its own purpose since the bone resorption and skeletal deformity results in renal rickets.

Since the previously so important infectious diseases are now largely under control, thanks to the progress in research on antibiotics, even greater stress will have to be placed in the future upon the diseases of adaptation and the wear and tear maladies of aging.

In chronic diseases such as the collagen group, including rheumatoid arthritis, rheumatic fever, periarteritis nodosa, disseminated lupus erythematosus, scleroderma, and dermatomyositis, there is a hypofunction of the adrenal cortex as shown by urinary assay of the corticoid hormones. Thus the organism is in the stage of exhaustion. The collagen diseases are those in which there is a fibrinoid degeneration of the collagen fibers of the connective tissue and the tissue affected determines the complex which results whether it be blood vessels, joints, skin, or heart.

Hyaluronidase is an enzyme which causes breakdown of hyaluronic acid. This acid is contained in the cell membrane and cement substance around the cell and when it is destroyed it results in destruction of the cell membrane. It has been shown that the male sperm and cancer cells contain large amounts of hyaluronidase which enables them to penetrate the ovum and normal tissue cells respectively. Hyaluronidase is used at present clinically to increase speed of subcutaneous infusions.

It has been shown by Opsahl[3], by using the spread of India ink in determining the presence of hyaluronidase in the tissues, that adrenalectomized animals have a greater enhanced spread indicating increased hyaluronidase. The giving of adrenal cortical hormones inhibited the increased spread in the tissues, indicating that the hyaluronidase was reduced to normal amounts. So it is reasonable to assume that in hyperfunction of the adrenal cortex there is a low level of serum hyaluronidase which is a defense mechanism to preserve body tissue as seen in the alarm reaction and in hypofunction of the adrenal cortex or exhaustion stage there is increase in level of hyaluronidase resulting in destruction of body cells. Assuming these premises are true, we can say that the collagen diseases have two things in common; they are, adrenal cortical hypofunction and increased hyaluronidase levels.

The frequent presence of arthritis in various endocrine disturbances such as menopause, myxedema, acromegaly, dwarfism, diabetes insipidus, adiposogenital dystrophy, and eunuchoidism has been observed for some time. Although there has been no definite causal relationship proven between the endocrine diseases and arthritis, the coincidence between these diseases seems to occur more often than one would expect if the disorders were not related.

As a result of observations on the relief of rheumatoid arthritis during pregnancy and jaundice, Hench[4] was impressed by the fact that these conditions were effective in the relief of rheumatoid arthritis in 60 to 90 per cent of patients, whereas, the best other therapeutic measures available, including gold therapy, are equally effective in only 10 to 15 per cent. These results led him to the belief that some substance normal to the human economy was responsible for the relief of rheumatoid arthritis. The occasional temporary remissions that occurred during surgical operations or following anesthesia and certain other stress conditions suggested that this substance might be present in increased amounts during these conditions also. The common denominator was thought to be an adrenal hormone since the above conditions stimulate the adrenal cortex as seen in the alarm reaction. Hench has stated that even though the pathologic anatomy of rheumatoid arthritis is more or less irreversible, the pathologic physiology of the disease is potentially reversible and sometimes dramatically so.

It has become increasingly more difficult to harmonize the bacterial theory of the origin of rheumatoid arthritis with the phenomenal relief of the disease by jaundice and pregnancy. It became easier to consider that rheumatoid arthritis may represent some basic biochemical disturbance.

With these facts in mind, one of the 30 odd hormone fractions of the adrenal cortex was looked for which might duplicate the results of pregnancy and jaundice. In 1948 Kendall[5] isolated one of the adrenal glucocorticoids called Compound E or 17-hydroxy 11-dehydro-corticosterone which was used by Hench[6] and his co-workers at the Mayo Clinic on 14 patients, all of whom had severe or moderately severe rheumatoid arthritis. All patients had "marked" improvement in a few days on daily injections of 100 mgms. of Compound E or Cortisone and relapses occurred in a short time when the drug was discontinued. The improvement was not only

subjective, but marked decrease in the sedimentation rate, increase in hemoglobin, RBC, weight, appetite, euphoria, and serum proteins occurred. First to improve was the muscular and articular stiffness in 48 hours, then the articular swelling and tenderness subsided. Doses less than 100 mgms. daily proved to be insufficient and must be given continuously or a relapse will likely occur.

Identical results are seen with A C T H in doses of 40 mgms. daily. The use of A C T H simply stimulates the adrenal cortex and the patient manufactures his own endogenous Compound E or Cortisone. A number of methods of nonspecifically stimulating the pituitary to increase its A C T H output, and thereby the adrenal cortical secretion, are now being studied in patients with rheumatoid arthritis.

The use of Cortisone and A C T H in acute rheumatic fever has proven to be just as dramatic as in rheumatoid arthritis[7,8]. Not only has there been prompt disappearance of fever, tachycardia, and polyarthritis in a few days, but the sedimentation rate and P-R interval have become normal within two weeks. Much time must elapse before any definite conclusions can be drawn as to the effect of Compound E on rheumatic heart disease, but cardiac muscles and fibrous valves are not very different histologically from skeletal muscles and fibrous tissue. The helpful effect which Compound E has upon the muscles and fibrous tissues of rheumatoid patients, an effect which appears to be more than one of simple analgesia, permits us to hope that cardiac muscles and valves may respond similarly. As stated previously, the glucocorticoids cause a marked increase in excretion of uric acid in both gouty and normal persons. With this in mind, Thorn[7] used ACTH in patients with gout which produced a large increase in urinary uric acid and a prompt fall in the serum uric acid. The clinical improvement was striking and rapid, much more so than with salicylates.

Disseminated lupus erythematosus, periarteritis nodosa and dementia praecox have also been found to respond to Cortisone and A C T H[9]. The dangers of continued A C T H or Compound E Acetate treatment are essentially the undesirable side-effects associated with prolonged high level of adrenal steroids, and these effects will not be known for some time yet.

The beneficial effect of these substances in the rheumatic diseases is a great advance in therapy. The use of adrenal cortical steroids and adrenal cortical stimulants will do much to further research in the diseases of Adaptation which include the collagen diseases, nephrosclerosis and hypertension.

CONCLUSIONS

1. The theory and application of Seyle's General Adaptation Syndrome have been presented and the physiologic effects of the adrenal cortical hormones were discussed.
2. Increased hyaluronidase levels in the serum and hypofunctioning of the adrenal cortex may be the pathologic physiology common to the collagen diseases.
3. Dramatic remissions of rheumatoid arthritis during pregnancy, jaundice, anesthesia, surgical operations, and other conditions of stress led Hench to believe that an adrenal hormone may be responsible for the improvement since all these conditions stimulate the adrenal cortex in the alarm reaction.
4. Compound E acetate or Cortisone and Adrenocortico tropic hormone or A C T H were found effective in producing remissions in rheumatoid arthritis, rheumatic fever, disseminated lupus erythematosus, periarteritis nodosa and gout.

REFERENCES

1. Endocrinology, Hans Seyle, Acta Endocrinologica, University of Montreal, 1947.
2. Long, C. N. H.: Conditions Associated with Secretion of Adrenal Cortex. Federation Proc. **6**:461-471, 1947.
3. Opsahl, J. C.: *Yale Jour. of Biology and Medicine* **21**:255-262 (January, 1949).
4. Hench, P. S.: The Potential Reversibility of Rheumatoid Arthritis. Proc. Staff Meeting Mayo Clinic **24**:167-180, March 30, 1949.
5. Kendall, E. C.: Some Observations on the Hormone of the Adrenal Cortex Designated Compound E; Proc. Staff Meeting Mayo Clinic **24**:298-301, May 25, 1949.
6. Hench, P. S.; Kendall, F. C.; Slocomb, C. H., and Polley, H. F.: Effect of Hormone of Adrenal Cortex (17-hydroxy-11-dehydro-corticosterone; Compound E) and of Pituitary Adrenocorticotropic Hormone on Rheumatoid Arthritis. Proc. Staff Meeting Mayo Clinic **24**:181-197, 1949.
7. Thorn, G. W.; Bayles, T. B.; Benedict, F. M.; Forsham, P. H.; Hill, S. R.; Smith, S., and Warren, J. E.: Medical Progress Studied on the Relation of

Pituitary—Adrenal Function to Rheumatic Disease. *New England Jour. of Med.* **241**:529-537, 1949.

8. Hench, P. S.; Slocomb, C. H.; Barnes, A. R.; Smith, H. L.; Polley, H. F., and Kendall, E. C.: The Effect of the Adrenal Cortical Hormone, 17-hydroxy-11-dehydro-corticosterone (Compound E) on the Acute Phase of Rheumatic Fever. Proc. Staff Meeting Mayo Clinic **24**:277-297, 1949.
9. Personal communication from Joseph E. Hollander.

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New Books.

The following are recently acquired books at the Library of the Medical College of Virginia, and are available to our readers under usual library rules:

America's health: A report to the nation.
Bergler—The basic neurosis.
Blackwood—Atlas of neuropathology.
Cole—Operative technic. Specialty surgery.
Coley—Neoplasm of bone.
Fetterman—Practical lessons in psychiatry.
Hall—Psychological aspects of medicine.
Kaplan—Clinical radiation therapy. 2nd edition.
Lemkau—Mental hygiene and public health.
Markowitz—Textbook of experimental surgery. 2nd edition.
Mill—Prescription manual.
Overholt—The technic of pulmonary resection.
Pratt—A year with Osler.
Rennie and Woodward—Mental hygiene in modern society.
Siri—Isotopic tracers and nuclear radiations.
Tangney—Diabetes and the diabetic in the community.
University of Wisconsin—Respiratory enzymes.
Walker—Post-traumatic epilepsy.
Waksman—Streptomycin.

Antibiotic Drug Reported Effective for Whooping Cough and Venereal Disease.

Aureomycin, the golden-colored antibiotic drug, is effective against whooping cough and lymphogranuloma venereum, a minor venereal disease, two Minneapolis doctors have reported.

Recent experimental and clinical studies indicate that aureomycin is effective in whooping cough, Drs. Wesley W. Spink and Ellard M. Yow of the University of Minnesota Medical School said in the December 3 *Journal of the American Medical Association.*

The ulcerative venereal disease also responds favorably to treatment with aureomycin.

Aureomycin appears to be of little or no value in chickenpox and mumps, however, the doctors found.

Warns Against Unwise Use of Cold Tablets.

The Council on Pharmacy and Chemistry of the American Medical Association at a recent meeting warned against indiscriminate use of antihistaminic substances now being widely promoted for prevention and treatment of colds.

"The council recognizes the evidence that has been accumulated relative to such uses but it is not convinced that this is sufficient to warrant the positive statements that are being made.

"Cases already are reported and records show that about one third of those who take these drugs become drowsy or even fall asleep while at work or in occasional cases even when driving cars or operating machinery.

"Experience with these drugs is not yet long enough to know whether or not they are harmless when used over long periods of time. Furthermore, the amounts taken in persistent colds may be definitely beyond what has been established as safe.

"The council expects to publish a careful review of the present status of these products so that physicians who prescribe them may be aware of the possibilities."

X-RAY THERAPY OF NON-MALIGNANT CONDITIONS*

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and
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The value of X-radiation as an effective therapeutic agent in *malignancy* is well known. Even more satisfactory results can be obtained by the skilful administration of roentgen rays in non-malignant conditions. However, there has been reluctance of acceptance of the use of this therapeutic method by the medical profession. This has its roots in certain factors. The X-ray treatment of infections, for example, is highly successful but has been overshadowed by the effectiveness and ease of administration of the sulfonamides and antibiotics. One must also consider that the basic scientific explanation of how X-rays produce their results in treating infections is not completely known. However, when one sees the beneficial effects obtained, one has to concede that the treatment works even though scientists can only theorize about the basis of its action.

Irradiation of living tissue is always destructive whether by X-rays, radium or radioactive emanations. These radiations produce their effects by ionizing the atoms making up the cells. The resultant change in the physiology and biochemistry of the cell causes its destruction.

A great amount of work has been done in studying the effects of the various rays on humans as well as animals. Most of this has been made in connection with studies on cancer and with the manufacture and explosion of the atomic bomb. However, there has been much less experimental work in the field of non-malignant diseases such as sub-deltoid bursitis, plantar warts, keloids, and Marie-Strumpell arthritis. The researches to explain the action of X-rays in infection have yielded the following theories:

(1) Desjardins[1] states that the leucocyte is known to be the cell most easily killed by irradiation. Leucocytes are abundantly present in the region of inflammation. When roentgen rays are applied to the area of infection, they kill the leucocytes and thus liberate large quantities of antibodies and antibacterial enzymes.

(2) Bisgard and his co-workers[2,3] irradiated rabbits both before and after inoculating them with lethal doses of E. coli and diphtheria toxins. X-rays administered before inoculation produced a non-specific antitoxin that protected the rabbits. This was present 24 hours after irradiation, reached a peak in 48 hours, and was dissipated at the end of a week.

(3) Glenn[4,5] showed that rabbits have a significant rise in the phagocytic index after irradiation, which reaches a peak in 48 hours and returns to normal in a week.

(4) Roentgen rays alter the A/G ratio in local tissues, producing a local increase in globulins. Since antibodies are specific globulins, it is theorized that this may make a greater quantity of globulin available for antibody production.[6]

(5) Baylin[7,8] and his co-workers found in experimental feline pneumonia that X-rays to the entire body will definitely shorten the acute phase of the illness if given within 24 hours after onset of the infection. If irradiation is given to white mice 48 hours before their infection with swine influenzal virus pneumonia, there is a significant decrease in mortality.

In the above work one thing is prominent. There is always a time lag of about 24 hours before radiation effects appear. These reach a maximum in 48 to 72 hours and then gradually disappear in about 7 days.

In the authors' present series a large percentage of the cases experienced an analgesic effect with complete relief from pain in 4 to 6 hours.

The literature affords abundant proof of the value of X-ray therapy in non-malignant conditions. Numerous reports are found on the X-ray treatment of subdeltoid bursitis. Consistently the acute cases responded best. Pohle and Morton's results[9] of 84% completely or moderately relieved are typical of all those reported.

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In treating tuberculous adenitis, Hauser[10] reports the results in 87 unselected cases who were followed 8 months to 7 years after therapy. Results were considered satisfactory in 88.5% and unsatisfactory in 11.5% of this series.

The list of articles giving results in treating furuncles, carbuncles, cellulitis, and erysipelas is long. A paper by Pendergrass and Hodes[6] is typical of most of the reports. 70% of all cases were successfully treated and 94% of the patients with lesions of the face responded. There was often an increase in pain and occasionally of fever in the first 4-6 hours after treatment. However, in all cases that responded, fever dropped and pain disappeared in about 18-24 hours. If the infections were treated early, resolution occurred without suppuration. If the treatments were applied somewhat later during the infection, suppuration was hastened. In cases of cellulitis, localization and suppuration occurred. It is recognized that collections of pus must be evacuated.

Harvey and his associates[11] report on the use of radiation in acute post-partum mastitis. The presence of fever, local tenderness, and erythema of the skin were prerequisites for the diagnosis. No abscesses developed in 86 such breasts treated in patients who had not yet left the hospital after delivery. Most of these cases were seen within 24 hours after onset of the infection. Of 51 breasts treated in patients who had left the hospital, 2 developed abscesses. Both of these were seen more than 72 hours after onset of the mastitis. As a control series, 10 patients, whose infection began in the hospital, were treated by ice packs, heat or sulfonamides. None of these developed abscesses. Of 7 patients treated this way after discharge, 4 developed abscesses. The authors stress that in patients receiving roentgen treatment, the period of subjective symptoms and objective findings was markedly shortened.

Laing[12] reported 900 cases of subacute sinusitis in children. Of this number 639 or 71% were cured after one course of treatment, and were free of symptoms for at least one year. Another 15% showed moderate improvement. In these, symptoms were ameliorated for at least a year. 14% responded temporarily or not at all.

X-ray treatment of ringworm of the scalp has been recommended by the dermatologists. Levin and Behrman,[13] Lynch,[14] and Lane[15] state that cases caused by microsporon audouini are quickly cured by X-ray epilation, using 300 r to each of 5 fields.

Oppenheimer[16] treated 56 cases of virus pneumonia with small doses of X-ray. There were 45 cures in the 56 cases with the best results in the cases treated early. Powell[17] in 1939, at the time of the introduction of the sulfonamides, reported 104 patients with acute pneumonia who were treated by X-ray, with a mortality of 5%. This was a significant decrease in mortality from the 25% usually obtained at that time. Pendergrass and Hodes[6] had 231 cases of pneumonia treated by radiation with 16 deaths—a mortality of 7%.

Marie-Strumpell arthritis of the spine is one of the few of the arthritides that have been successfully treated with X-rays. Freyberg[18] reported his results in 52 cases. 13 cases were classified as early and showed only sacro-iliac involvement in the roentgenogram. Of these 92% received excellent symptomatic relief of pain and objective relief of stiffness. 19 cases were moderately advanced and showed incomplete calcification of the spinal ligaments in addition to the sacroiliac involvement. Of these 68% improved symptomatically and 37% objectively. 20 cases were far advanced, and in these 65% showed symptomatic improvement and 35% objective improvement. Freyberg concludes that roentgen therapy is the most dependable means of relieving the discomfort of this disease.

The use of radiation in treating hyperplastic nasopharyngeal lymphoid tissue as advocated by Crowe and Burnam[19] has found ready acceptance among the nose and throat specialists. They have used only radium or radon for local application. However, the same beneficial results have been obtained by the use of X-irradiation. Neuhauser and Ferguson[20] treated 38 patients with conductive deafness with X-rays. Only 16 cases had completely satisfactory follow-up. In two the response was not satisfactory. One of these had nerve deafness and the other was psychoneurotic with complaints of deafness that could not be evaluated. The other 14 showed definite improvement with 12 cases having an excellent response. The use of X-rays has certain advantages over the use of radium: (1) the necessary equipment is available in smaller hospitals and communities as well as in the large

centers; (2) usually only two treatments are needed; (3) it is not necessary to subject the patient to nasopharyngoscopic procedures and instrumentation to obtain completely satisfactory results; (4) sedation and anesthesia are not necessary. The latter two reasons are of especial importance in treating children.

The above does not exhaust the list of non-malignant conditions amenable to X-ray treatment. Other conditions are: fungus infection of the feet and hands, human bite infections, gas gangrene, herpes, otitis media and mastoiditis, parotitis, thrombophlebitis, various dermatitides, pruritis ani and vulvae, hemangiomata, giant cell tumors, and uterine fibroma.

During a period of a few months 70 patients have received roentgen therapy in the Baltimore City Hospitals for 19 different non-malignant conditions. These have been: acute dento-alveolar abscess, sub-deltoid bursitis, plantar warts, tuberculous adenitis, furunculosis, keloids, non-tuberculous adenitis, infected calluses, osteomyelitis, large thymus glands, post-partum mastitis, cellulitis, acute sinusitis, fungus infection, bronchial asthma, eczema, indolent ulcers, Marie-Strumpell arthritis, and bleeding nasal septum.

As a rule cases have been referred to the X-ray department as a last therapeutic resort. In spite of this, results have been good. The following cases are illustrative:

(1) A 32-year-old white male was referred from the accident room where he had presented himself "to have an operation to relieve the pain" in his left shoulder. He gave a history of a chronic bursitis of 8 years duration. On physical examination the patient was unable to move the left arm or shoulder without marked pain. He had difficulty in undressing for the examination because of the exquisite tenderness present in the subdeltoid area. The skin was hot and erythematous; there was soft tissue swelling present; and X-ray films demonstrated a large amount of calcium deposited in the subdeltoid bursa. Deep therapy was administered through two portals (A.P. and lat.) 15x15 cms., every second day for three times, using 200 KV, 20 ma, 50 cm. TSD., ½ mm. Cu and 1 mm. Al, HVL of 1.2 mm. Cu. 75 air r per portal.

After the second treatment the patient noted improvement and had a marked increase in shoulder motion. Two weeks after starting treatment the patient was asymptomatic. Films made 6 weeks later showed almost complete resorption of the calcium deposits. A second course of therapy was given in the hope of further resorption of the remaining calcium.

(2) A 5-year-old white girl was admitted because of furuncles of the nose of one week's duration. In spite of hot soaks and penicillin the lesions progressed. On physical examination there was a cellulitis of the entire nose with a furuncle at the tip. The nose was exquisitely tender and there was marked edema on the right. The patient received 5 treatments of 50 r daily, using 135 KV, 10 ma, 3 mm. Al, at 30 cm. TSD through a 4 cm. diameter portal directed to the lesions. By the end of the fifth day the furunculosis had completely subsided.

(3) A 28-year-old white female was admitted to the tuberculosis division March 1, 1947, with minimal pulmonary tuberculosis and tuberculous adenitis, left cervical and left axillary. The diagnosis had been established by biopsy of one of the axillary nodes. The patient, when seen by us in March, 1947, was undernourished, and showed hard, non-tender fixed nodes in the left supraclavicular region. There was a draining sinus in the left axilla, together with enlarged, matted, fixed palpable nodes. Roentgen therapy to the left supraclavicular region and to the left axilla was begun March 7, 1947, giving 100 r in air to each field approximately once a week for a total of 800 r in air to each field. The factors used were 200 KV, 0.5 mm. Cu. 1 mm. Al added filter, 20 ma, 50 cm. TSD, HVL 1.2 mm. Cu. The nodes in the neck and axilla gradually decreased in size. After three months the nodes in the neck were small, hard, and fibrotic. The sinus tract in the left axilla was healed and the nodes were small and fibrotic. Serial roentgenograms of the chest showed the lesion in the lung to be stable and the patient was discharged 8-5-47. She had gained 32 pounds in weight.

(4) A 37-year-old former boxer had been admitted with a history of arthritis since 1937. Involvement of the spine began in 1939 and had been progressive with marked fixation and increasing pain. When first seen in the X-ray department for therapy in 1946 the patient was invalided and unable to walk. He could stand for only short periods. Roentgenography showed osteoarthritis of the Marie-Strumpell type involving the lower lumbar vertebrae, hips, knees, and ankles. Deep X-radiation was given to the painful areas of the spine through two 10x15 cm. portals, using 200 KV, 50 cms. TSD, 20 ma, 1 mm. Cu. and 1 mm. Al, HVL 1.68 cu. 100 r per portal, twice weekly for a total of 1000 r per portal. One week after starting treatment the patient stated he had much less pain over the spine and greater freedom of motion. Three and one-half weeks after initiating therapy the patient stated he got out of his chair and shadow boxed for 20 minutes. The patient remained free of pain for about 3 months and had greater freedom of movement during this time but finally the symptoms gradually recurred. (NOTE: All doses listed above are measurements in terms of "Air Dose.")

The results of treating the 70 cases of non-malignant conditions with X-rays are outlined below (See Table 1).

RESULTS

Diagnosis	Good No. Cases	Fair No. Cases	Poor No. Cases (No result)	Total
Acute dento-alveolar abscess	17	0	1	18
Subdeltoid bursitis	4	4	0	8
Plantar warts	6	0	0	6
Tuberculous adenitis	4	0	1	5
Furunculosis	5	0	0	5
Keloids	2	2	0	4
Non-T.B. adenitis	3	0	0	3
Infected calluses	3	0	0	3
Osteomyelitis with draining sinuses	1	0	2	3
Large thymus	1	2	0	3
Post partum mastitis	1	1	0	2
Cellulitis	1	0	1	2
Acute sinusitis	2	0	0	2
Fungus infection	1	0	0	1
Bronchial asthma	0	0	1	1
Eczema	1	0	0	1
Indolent ulcer	1	0	0	1
Marie-Strumpell arthritis	0	1	0	1
Bleeding nasal septum	1	0	0	1
Total	54	10	6	70

TABLE I

SUMMARY

(1) Theories concerning the action of X-ray therapy on infections as well as a review of the recent literature concerning the use of X-rays in treating non-malignant conditions are presented.

(2) Seventy patients with various non-malignant conditions were treated by small doses of X-irradiation. Of these, 54 responded well, 10 had slight benefit, and 6 had either poor or no results.

(3) X-ray therapy is of real value in the above listed conditions and should be more widely employed.

BIBLIOGRAPHY

1. Desjardins, A. U.: Roentgen Treatment for Inflammatory Conditions. *Am. J. Roent.* **44**:594-600, 1940.
2. Bisgard, J. D., Hunt, H. B., Neely, O. A., and Scott, P.: Mechanism of Action of Roentgenotherapy Upon Infection. *Surgery* **115**:996-1006, 1942.
3. Bisgard, J. D., Hunt, H. B., and Dickinson, R. H.: Effect of X-ray Irradiation Upon Bacteria Toxemia in Rabbits. *Radiology* **43**:330-332, 1944.
4. Glenn, J. C.: Studies on Effects of X-rays on Phagocytic Indices of Healthy Rabbits. *J. Immunol.* **52**: 65-70, January, 1946.
5. Glenn, J. C.: Effect of Roentgen Rays on Phagocytic Indices of Healthy Rabbits. *J. Immunol.* **53**:95-100, May, 1946.
6. Pendergrass, E. P., and Hodes, P. J.: Roentgen Therapy of Infections. *Texas State J. Med.* **35**: 693-699, 1940.
7. Raylin, G. J., Dubin, I. N., and Gobbel, W. G. J.: Effect of Roentgen Therapy on Experimental Virus Pneumonia, *Am. J. Roent.* **55**:473-477, April, 1946.
8. *Ibid.: Am. J. Roent.* **55**:478-481, April, 1946.
9. Pohle, E. A., and Morton, J. A.: Roentgen Therapy in Arthritis, Bursitis, and Allied Conditions. *Radiology* **49**:19-25, 1947.
10. Hauser, H.: Roentgen Therapy in Tuberculous Cervical Lymphadenitis. *Radiology* **37**:304-309, September, 1941.
11. Harvey, R. A., Spindler, H. A., and Dowdy, A. H.: Roentgen Treatment as an Adjunct in the Management of Acute Postpartum Mastitis. *Surg., Gynec. and Obst.* **80**:396-402, 1945.
12. Laing, D. R.: The Roentgen Treatment of Subacute Sinusitis in Children. *Radiology* **50**:52-56, 1948.
13. Levin, O. L., and Behrman, H. T.: The Diagnosis and Treatment of Epidemic Ringworm of the Scalp. *J. Mt. Sinai Hosp.* **10**:455-458, 1943.
14. Lynch, F. W.: Ringworm of the Scalp. *Journal-Lancet* **65**:228-229, 1945.
15. Lane, C. G., and Crawford, G. M.: Treatment and Prevention of Certain Common Skin Diseases. *Med. Clin. N. Amer.,* September, 1947, pp. 1146-1147.
16. Oppenheimer, A.: Roentgen Treatment of Virus Pneumonia. *Am. J. Roent.* **49**:635-638, 1943.
17. Powell, E. V.: Treatment of Acute Pneumonias with Roentgen Rays. *Am. J. Roent.* **41**:404-414, March, 1939.
18. Freyburg, R. H.: Roentgen Treatment for Rheumatic Diseases. *Med. Clin. N. Amer.* **30**:603-615, May, 1946.
19. Crowe, S. J., and Burnam, C. F.: Recognition, Treatment, and Prevention of Hearing Impairment in Children. *Ann. Otol., Rhinol. and Laryngol.* **50**: 15-31, March, 1941.
20. Neuhauser, E. B. D., and Ferguson, C. F.: Conductive Deafness and Its Relation to Lymphoid Hyperplasia of the Nasopharynx. *Med. Clin. N. Amer.,* September, 1945, pp. 1251-1258.

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Medical Society of Virginia Cancer Committee

Chairman, GEORGE COOPER, JR., M. D.

Medical School Building, University, Virginia

Reprints of this and preceding Bulletins may be obtained from this office

February 1, 1950

Case Report

A 47 year old man went to his physician five and a half years ago, complaining of mucopurulent discharge from the left nostril and pain in the left cheek. The symptoms were of about three months' duration and were growing progressively more severe, but there was no history of acute upper respiratory infection.

The physician examined the patient and told him he had a polyp in the left nostril. He treated him for six months with nose drops, during which time the symptoms continued to grow slowly worse.

The patient finally sought the advice of another physician who immediately referred him to an otolaryngologist. X-ray studies of the paranasal sinuses demonstrated an opaque left antrum and bone destruction in its lateral and superior walls. Biopsy of the polyp was reported adenocystic basal cell carcinoma.

Vigorous radiation therapy to the left face has been followed by five years of complete remission of local manifestation of cancer. But the patient is now bedridden, in a terminal state due to innumerable pulmonary metastases.

Comment: The fate of the cancer patient lies in the hands of the first physician who sees him. No amount of knowledge, skill, or treatment can save a patient when the first physician he consults gives him advice which delays diagnosis and treatment until his cancer has become a systemic disease.

No one will ever know what the effect on the outcome of the above case might have been if the first physician had been more alert. At the very least, he delayed diagnosis and treatment for six months.

There were three faults:

1. The physician's index of suspicion for cancer was much too low. Obviously, the doctor who does not think of cancer will never diagnose it.

2. He made a pathological diagnosis (benign polyp) without a biopsy. Incidentally, the State Health Department through its Bureau of Cancer Control, has brought tissue diagnosis within easy reach of every physician in the State. This service has been fully publicized, but used much too little (see the Cancer Bulletin in the December, '49, Virginia Medical Monthly). There is no longer any reason to omit a biopsy, regardless of the physician's location or the patient's financial status.

3. In spite of the failure of response to treatment, the physician did not review the case or attempt a revision of his initial impression.

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CORRELATION OF APPENDICITIS AND OXYURIS VERMICULARIS*

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We of the House Staff have had Dr. Kernodle point out an interesting finding in surgical pathological material at our weekly conferences, namely: the finding of Oxyuris vermicularis in the lumen of appendices. Dr. Liebman and I became interested in attempting to correlate the presence of this parasite and the clinical picture of the case in a sample survey of our own material which has passed through the laboratory. We decided to study all the sections of appendices which were submitted for examination from April 1st, 1948, to April 1st, 1949, and to see if there were any clues to be found from the history, physical findings, or laboratory studies of the cases which might lead to a pre-operative impression of the presence of the parasite.

A few words about the parasite under consideration might be in order before getting into the statistical study of our own material. It is known as Oxyuris vermicularis or Enterobius vermicularis and more familarly as pin worm or seat worm. A survey of 2,100 cases in Washington, D.C., revealed a general incidence of 41% with whites being infected two or three times more frequently than negroes. The highest incidence is in children of school age (50%), pre-school children (35%), and adults (22%). The adult worm lives in the cecum, appendix and ascending colon. The females measure eight to thirteen millimeters, the males two to five millimeters. After fertilization the female migrates down the colon to the anus, loaded with eggs. Some may make nightly trips to the anus to deposit their eggs and retreat to the rectum; others stay out in the anal folds, and others are passed in the feces. It is their movement in the anal area which causes the intense itching. Contact with the air causes the female to deposit her eggs. The eggs contain a partially formed parasite which stays in the egg until swallowed. The mode of infection is either air borne or self contamination by hand. The intense itching caused by the presence of the worms results in scratching with subsequent implantation of eggs under the nail; these are carried to the mouth and so the cycle goes.

Pathologically, the presence of the parasites may cause acute inflammatory changes in the cecum. Opinions are divided as to whether or not the parasite may be the inciting cause of acute appendicitis. Harris and Brown in 1925 found the worm in twenty-two cases out of one hundred and twenty-one appendectomies. Gordon in 1933 found it only in 1.19% of 26,051 appendices. Occasionally it may wander into the female genital tract and cause acute inflammatory changes in the tubes. If they reach the peritoneal cavity, the parasite becomes encysted.

Our survey, as previously mentioned, covers the period from April 1st, 1948, to April 1st, 1949. We obtained and re-examined under the microscope all the specimens of appendices submitted in that period. After examining all the material, the clinical charts were examined in the positive cases, to determine if there were any significant findings obtainable to help in reaching a diagnosis, other than in the use of anal swabbing as described by Hall. The total number of specimens examined for that period was 483. The specimens were divided into two groups: (A) Those in which the appendix was removed by itself and in which the diagnosis of appendicitis had been made clinically. (B) Those in which the appendix was removed in connection with other operative procedures. Those of Group (A) appendectomies only numbered 323. Those of Group (B) numbered 160. The number of positive specimens found containing Oxyuris vermicularis were ten cases. Eight cases were from Group (A) and two cases from Group (B). The ratio then in our survey was ten positive cases in 483 specimens or 2.1% incidence.

It must be realized that this figure may be a low one, because our study of the appendices was limited to from two to five specimens per appendix. It

*This paper was forwarded to the MONTHLY by Dr. A. C. Wyman, President of the Medical Staff of Alexandria Hospital as the first award of an annual prize for the best original paper on a clinical subject by a member of the House Staff. This prize, known as the Betty D. Speck Memorial Prize, is offered through the generosity of Dr. George Speck.

may well be that serial sections of these specimens might have revealed some parasites that escaped the microtome blade in our series.

An analysis of our ten positive cases revealed an age distribution from two to twenty-seven years. Three of the cases were below ten years of age. Five were between ten and twenty years, and two were between twenty and thirty years of age. Seven were female, three were male. All the cases were in white persons.

Examination of the histories regarding onset and duration of symptoms revealed one case with symptoms twelve hours prior to admission and one case with symptoms twenty-four hours. One case had colicky pain for two months prior to admission. The past history was negative regarding symptoms of pruritus ani in all cases. Location of pain revealed the following: umbilical or paraumbilical in four cases; right lower quadrant in three cases. The remaining three cases made no mention of pain location. Symptoms of nausea and vomiting were present in five cases. Diarrhea was present in two cases. Examination of abdomen revealed tenderness and pain in right lower quadrant in five cases; tenderness about umbilicus in three cases. Laboratory studies revealed white blood counts ranging from 9,000 to 22,000. The differentials were unrevealing, only two cases revealing eosinophilia, two eosinophils being present in each case. One case had a pre-operative stool examination for ova and protozoa which was negative. The urinalysis were negative in all cases.

We had wondered during our review of the cases whether the presence of eosinophils might not be a clue, but, as seen from the survey, it was conspicuous by its absence. Pain location in the abdomen failed to point the way for a correct diagnosis. The symptoms present were those characteristically found with inflammations involving the appendix and not revealing for diagnosing Oxyuris. It is our impression that the pre-operative diagnosis of Oxyuris is a difficult one to make in the face of a case which presents with the findings of acute appendiceal inflammation. However, it might be arrived at with more assurance in the cases of so-called chronic appendicitis, especially where there is an antecedent history of pruritus. The pain location in these cases is more paraumbilical rather than right lower quadrant.

The diagnosis of Oxyuris can be made most easily, not by examining the feces, but by the perianal technique described by Hall. Fecal smears reveal less than 1% of actual infection, flotation methods less than 25%. The Hall method reveals up to as high as 80% of the infection.

In closing, then, we surveyed 483 specimens submitted to the laboratory from April 1st, 1948, to April 1st, 1949, and found ten cases yielding 2.1% incidence. All were in whites and in the young age group. History, physical examination, and blood counts were not revealing in establishing the diagnosis of Oxyuris infestation.

REFERENCE

Chandler, Asa C., Introduction to Parasitology, John Wiley & Sons, 1940.

Hay Fever Drugs in Epilepsy.

Study of the effect of two widely used hay fever drugs, benadryl and pyribenzamine, on epilepsy shows that benadryl decreases the frequency of seizures of the petit mal form of the disease, according to a report in the September 3rd *Journal of the American Medical Association.*

Petit mal is the less severe type of epilepsy in which the sufferer is dazed for a few seconds at a time. No claim is made by Drs. John A. Churchill and George D. Gammon of the University of Pennsylvania, Philadelphia, who reported on the drugs, that benadryl can be used as a treatment for petit mal at present. The study shows further that both benadryl and pyribenzamine are capable of inducing more severe seizures in patients with certain brain lesions, and that pyribenzamine also increases seizures of petit mal epilepsy.

ANAPLASTIC CARCINOMA OF THE LUNG WITH METASTASIS TO THE SPINAL CORD—Case Report

R. L. WADDELL, M.D.,
Galax, Virginia.

A white female, age 40, housewife and textile worker, was admitted to the hospital December 3, 1948.

Chief Complaint:—General weakness and paralysis of both legs. Present illness began with general debility about three or four months prior to admission to the hospital.

Patient gave up her work in the textile mill one year before her illness in order to take care of household duties.

The first subjective symptoms began about three or four months prior to admission with pain between her shoulders, which she had been told was due to neuritis. The patient discharged her duties in the home until the day before her admission, at which time one leg became weak and numb, and the following day, or the day of admission, the other leg became similarly affected.

Family History:—Father and mother both dead. The cause of father's death unknown. Mother had epilepsy and died at the age of 22 with some kind of fever. Grandfather died from cancer of the stomach. This patient was the mother of five children—ages ranging from 3 to 15 years.

Habits:—Patient used snuff freely.

Past History:—Patient had always been rather sickly. Epileptic seizures began at the age of 12 and continued to occur occasionally during her marital life, sometimes with intervals of years between the attacks, the last interval being ten years.

Physical Examination:—Height—5 feet 4 inches. Weight—Present weight 80 pounds; former weight 104 pounds.

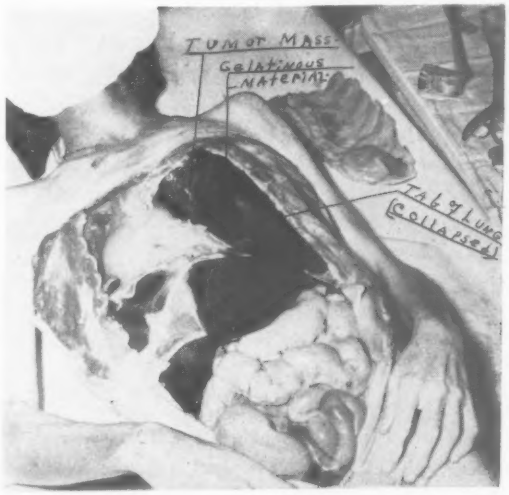
Temperature 98.6, pulse 78, respiration 20. Patient was an emaciated female adult, lying quietly in bed, apparently in no distress, the only complaint being inability to move the lower extremities; skin was dry, scaly and evidence of loss of weight; head and neck were essentially negative. Thorax—On inspection, revealed a flat, bony framework. Percussion revealed flatness over left chest in the sternal, infra-clavicular and interscapular regions and dullness over the right lung.

Breath sounds over the left lung were absent, and those over the right lung were markedly diminished. Cardio-Vascular System—B. P. 100/50; heart enlarged, but no thrills or murmurs. Arteries —soft, compressible. Veins—no varicosities. Abdomen—scaphoid, no masses; liver and spleen not palpable.

Genito-Urinary — negative; glandular system—negative.

Neuro-Muscular System—There was a general flabbiness and loss of muscle tone, the lower extremities being completely paralyzed. Reflexes were markedly diminished, but not totally absent.

Laboratory Findings: Hbg. 85%; erythrocytes 4,200,000; color index 1.02; sedimentation rate 90 millimeters; leukocytes 6,400; differential count normal. Urinalysis, essentially negative; sputum negative for acid fast bacilli; Wassermann negative.



Anaplastic carcinoma of left lung with metastasis to right lung and spinal cord.

Agglutination Tests: B. typhosus—negative; para A typhosus—negative; para B typhosus—negative; Rocky Mountain spotted fever—negative; undulant fever—negative; B. tularense—negative.

The clinical impression following these studies

was that there was some definite pathology in the left lung. On the following day after admission, X-ray examination revealed a tumor-like mass in the left thoracic cavity extending from the apex to the fourth innerspace. There was a gradual rise in temperature on the ninth day of admission, ranging from 100.4 on the ninth day to 104.2 on the twentieth day, without a corresponding increase in pulse and respiration.

Owing to the marked atrophy and the progressive ascending paralysis and the fact that the patient, having lost the sphincteric reflexes of the bowel and bladder, led us to believe that there must be an obstruction or lesion in the region of the dorsal cord. Patient was removed to X-ray room, where spinal puncture was made. The spinal fluid was crystal clear and not under pressure. Lipiodol was injected into the third interspace; then patient was raised in the upright position for radiographs at intervals for one hour.

The lipiodol did not pass the twelfth dorsal vertebra. After this X-ray examination, it was believed the tumor mass in the left chest was causing pressure somewhere on the cord.

The patient became progressively worse and expired on the forty-ninth day after admission. She did not have any cough or expectoration, neither did she ever complain of pain. She took nourishment and was perfectly rational up to the time of her death. However, her respiration became labored two days before she expired, and she was placed in an oxygen tent. It was decided early in this case that, owing to the large tumor mass in the left thoracic cavity and the cord involvement, X-ray therapy or surgery were contradicted.

Clinical Impression: Carcinoma of the left lung with probably metastasis to the spinal cord.

POST MORTEM EXAMINATION

The apex of the left lung was completely replaced by a very firm mass of grayish brown tissue, 15 cm. in diameter. The tumor mass weighed 868 grams. The remainder of the lung was collapsed, dark blue in color, and studded with numerous 1.5 cm. large modules. On cut section the great vessels and air passages were patent up the point of obstruction of the tumor mass.

The lower half of the left thoracic cavity was replaced with dark brown gelatinous material. The right lung was filled with 2 cm. firm grayish brown nodules.

The upper portion of the pericardium was smooth and glistening. The arch of the aorta presented a smooth glistening intima. The right and left bronchi and trachea were patent and clean. The esophagus was patent—all of these structures being surrounded by an irregular grayish brown mass of tumor.

The liver, spleen and kidneys revealed both chronic and acute passive congestion with neither gross nor microscopic evidence of metastasis. The bladder presented a wrinkled contracted appearance, the bladder wall being 1 cm. thick.

Two dorsal vertebrae showed tumor mass closely adherent to the anterior body of the vertebrae—a portion of the vertebrae being decalcified. The spinal cord was compressed by a 1.5 cm. mass, blackish brown tissue. It was evident that metastasis to the cord was by direct extension.

Pathological Interpretation: Anaplastic carcinoma of the lung, with metastases to the other lung and lymph nodes and extension around the spinal cord; chronic and acute congestion of the liver, spleen and kidneys; chronic cystitis.

SUMMARY

This case is unusual and interesting in that it did not present the typical text-book picture. The usual local symptoms such as cough, chest pain, dyspnea, hemoptysis, and wheezing were not present. The patient was rational and took nourishment well up to twenty-four hours before her death. Fever and weight loss were the most outstanding of the general symptoms.

Roentgenographic films of the chest were the most helpful means in making a positive diagnosis of bronchogenic carcinoma of the lung in this case, in that a tumor about the size of a large grapefruit was visualized, of uniform density, and involved the upper half of the left lung.

THE EFFICACY OF PUNCH BIOPSY OF THE LIVER

LEONARD E. MEISELAS, M.D.,*
Brooklyn, New York.

With the realization that at best liver function tests are only an aid in the diagnosis of liver disease, newer methods have been devised for improved diagnosis. This has led to the development of the punch biopsy and numerous reports have praised this method of diagnosis. With various needles, a block of tissue one to two mm. by one to two cm. can be removed and given to the pathologist for diagnosis. Little discomfort is felt by the patient and the complications of the procedure are few, although the over-all mortality has been twelve cases in the thousands of punch biopsies that have been made.[1] Gilman and Gilman[2] made 500 consecutive liver biopsies without any deaths. This is the largest series of liver biopsies so far reported. The authors state that subsequent to the report, one death, due to hemorrhage, occurred.

This procedure was originated by Baron[3] in the United States and Iversen and Roholm[4] in Denmark. The latter used a trochar 18 cm. long and 2 cm. wide which was introduced into the posterior axillary line in the ninth intercostal space, then into the pleural space through the diaphragm into the liver. They did 160 punctures on 114 patients, but in 38, or 22.5%, they were unable to obtain liver tissue. In one case they obtained pure bile. It is interesting that this patient did not develop any serious complications. Ten of their patients came to autopsy and in five the puncture had left no trace. Baron performed 48 biopsies on 35 patients and had one death due to hemorrhage.

With the advent of infectious hepatitis as a public health problem, numerous reports were published dealing with the disease as determined by the biopsy technique. Dible and his associates,[5] using Iversen and Roholm's technique, made 126 biopsies. Three patients gave evidence of hemorrhage immediately following the biopsy and one died with the autopsy diagnosis of acute liver necrosis. At the same time they reviewed 613 cases which had an over-all mortality of 1%. Hoffbauer[6] collected a series of biopsies and had one untoward accident in which the needle passed through the left lobe of the liver. He, Evans, and Watson[7] emphasized the insight into liver pathology that has developed by this method. They do not believe that the method should be used where suppuration of the liver is suspected. It is claimed that the Vim-Silverman

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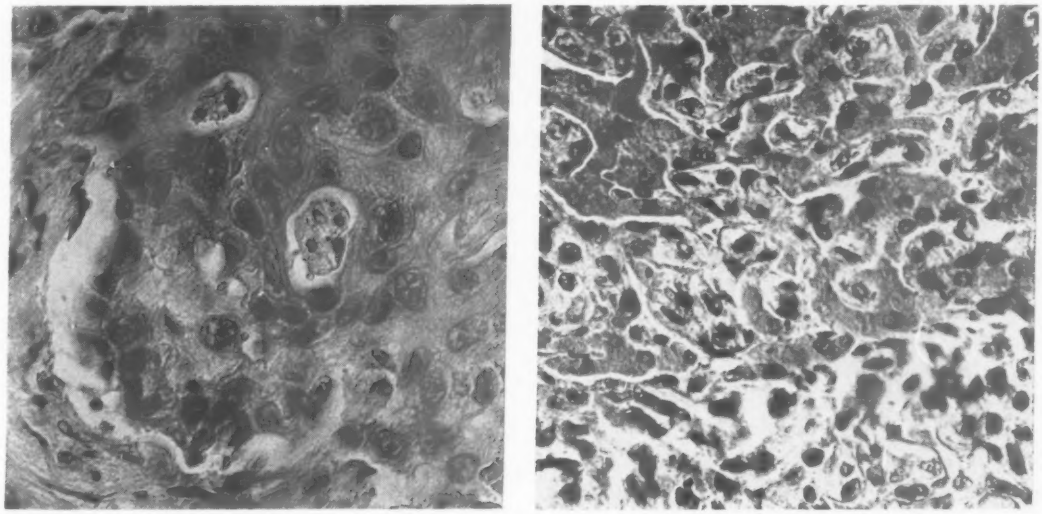


Fig. 1. Autopsy and Biopsy #3. Tumor cells are seen invading the stroma and replacing liver cords. Under higher magnification these are epidermoid in type. X 500.

needle has reduced the incidence of complications, especially the bleeding. Similar claims are made for the Turkel needle. Davis, Scott and Lund made 68 biopsies with the latter needle from 1939 to 1943,[8] and another group from 1943 to 1947,[9] in which the complications have been minimal. There have been similar reports, using various types of needles, by Schmidt and Wells,[10] Bang and Wanscher,[11] van Beek and Haex,[12] and Sherlock.[13]

Although this procedure has been accepted in many clinics as a routine diagnostic method, there has been a lack of investigation of the relation between the tissue removed from biopsy and tissue obtainable by autopsy in the same patient. It is not difficult to understand that diffuse disease of the liver, such as cirrhosis or hepatitis, is readily diagnosed by biopsy. However, one accustomed to the histological examination of the liver realizes that there are focal changes which may be present

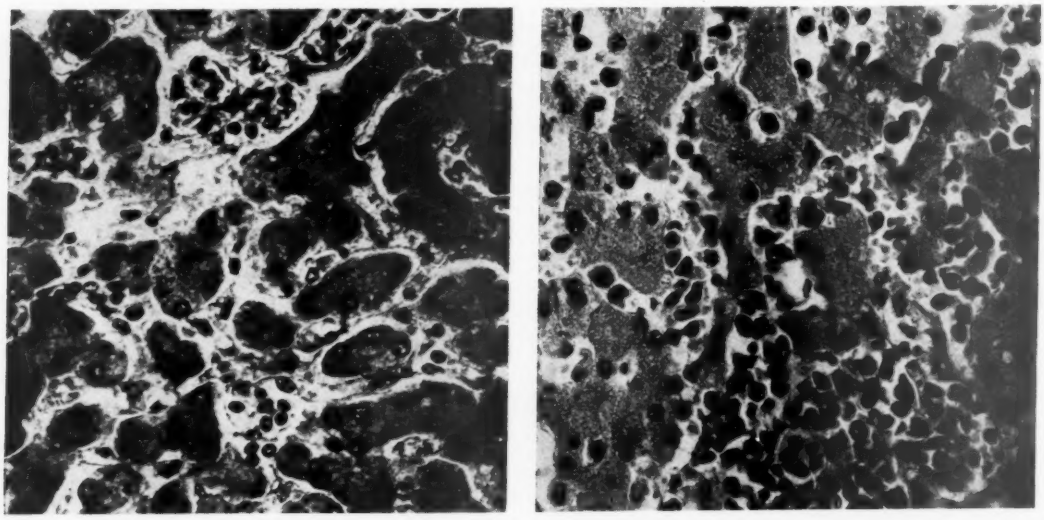


Fig. 2. Autopsy and Biopsy #6. Aggregations of myeloid cells are seen in the sinusoids with resultant atrophy of liver cords. Nodular aggregations replacing liver cords are also present. X 500.

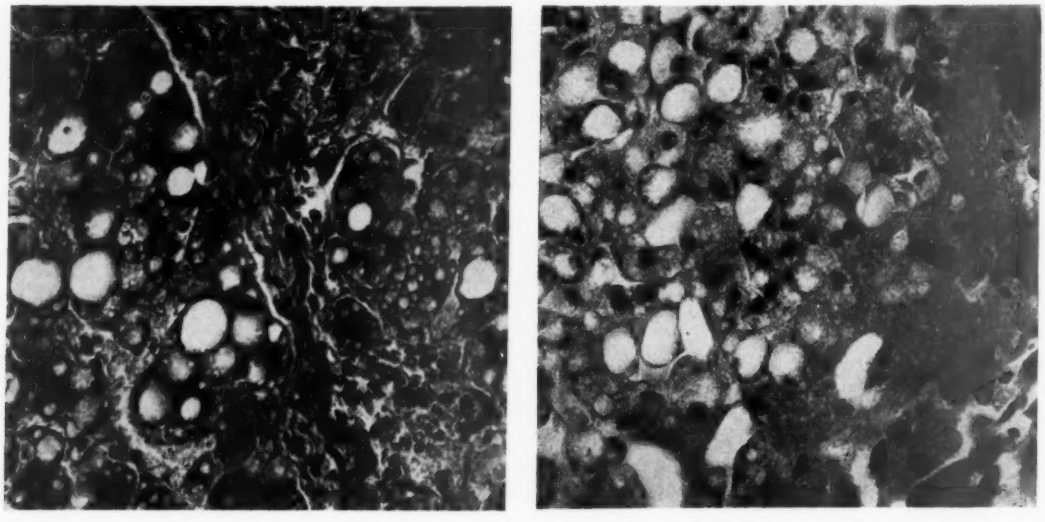


Fig. 3. Autopsy and Biopsy #10. Vacuolization of liver cords is present. Fibrous proliferation with lymphocytic infiltration can also be seen. X 500.

in one lobule and not in adjoining lobules. Metastatic carcinoma is but one example. Since serial biopsies are now being practiced, it would be advisable to know something of the error in the technique. An attempt has been made to correlate liver biopsies with autopsies in the same patient.

Methods: The Turkel needle was used exclusively on consecutive autopsies with the exception of newborns. The method used for the biopsies has been the one described by Davis and his coworkers.[8] The body was placed in the supine position on the morgue slab and after incision of the skin and fascia the needle was introduced into the ninth intercostal space, or subcostally. The plug of liver tissue was removed by rotating the needle and exerting negative pressure. The tissue was placed in formalin, fixed, dehydrated and stained with hematoxylin and eosin. The tissues were examined 24-48 hours after they had been taken and a diagnosis made. Multiple sections of the livers removed at post mortem were compared with the biopsied tissue. A total of sixteen cases were examined.

Results: Table I lists the diverse causes of death. Many of the patients did not have primary hepatic disease, which places significant emphasis on the ability to correctly determine the state of liver tissue by biopsy. There is complete agreement on ten of the sixteen cases examined (3, 6, 7, 8, 9, 10, 12, 11, 14, 16). In the remaining cases there was disagreement in three as to the degree of pathological change, e.g., slight vacuolization against moderate vacuolization. This leaves three cases for analysis. Neither case had significant biopsy findings. In case 2, the autopsy section revealed slight vacuolization; in case 15, the autopsy sections revealed congestion and hyalinized tubercles; and in case 5, the vacuolization was correctly noted but the occasional areas of necrosis were not.

Discussion: As expected, diffuse disease of the liver is readily diagnosed by biopsy, and the only source of error may be in the degree of pathological change. Focal disease (necrosis, tumor, granulomas) obviously may be missed; there were two cases of this nature. However, these lesions were exceedingly minute, and on a section approximately 2 x 2 cm. only three lesions were found in case 5, and only one in case 15. In other cases focal changes were found by this technique where the number of lesions was considerably higher in the routine section.

Criticism because of the small number of cases involved is hardly justified, since we have been concerned primarily with the possibility of erroneous diagnosis in livers that have been proven normal at autopsy. Thus, it is seen that in every liver in which significant pathological changes were not noted at autopsy, the section taken by biopsy tech-

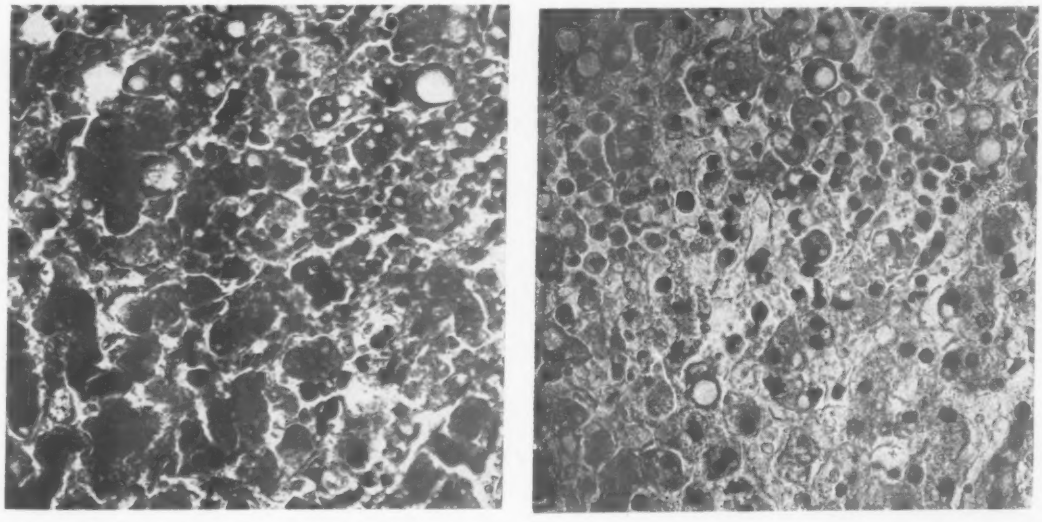


Fig. 4. Autopsy and Biopsy #14. Focal areas of necrosis with slight vacuolization of liver cords and neutrophilic infiltration are seen. X 500.

TABLE I

No.	Age	Sex	Race	Immediate Cause of Death	Biopsy	Autopsy
1	65	m	w	Portal vein thrombosis	Slight vacuolization	Moderate vacuolization. Necrosis in gall bladder fossa
2	4m.	m	c	Osteogenesis imperfecta	None	Slight vacuolization
3	50	f	w	Metastatic carcinoma of cervix	Infiltrating tumor cells	Infiltrating tumor cells
4	39	m	c	Intraventricular hemorrhage	Congestion	Spotty vacuolization. Occasional area of congestion
5	26	f	w	Typhoid fever	Slight vacuolization	Pericentral fat. Focal necrosis
6	24	m	w	Acute myeloid leukemia	Infiltration of myeloid cells	Infiltration of myeloid cells
7	50	m	w	Bronchogenic carcinoma	Congestion	Pericentral congestion
8	66	f	w	Myocardial infarction	Congestion	Pericentral congestion
9	50?	f	c	Arteriolar nephrosclerosis	Friable, soft tissue. Post mortem autolysis	Congestion. Dissolution of parenchyma. Post mortem autolysis
10	88	m	w	Portal cirrhosis	Portal cirrhosis	Portal cirrhosis
11	53	m	w	Perforated duodenal ulcer	Congestion	Congestion
12	35?	m	c	Compound comminuted fracture of face due to shotgun wound	Portal cirrhosis	Portal cirrhosis
13	58	f	w	Partial left coronary occlusion	Slight vacuolization	Moderate vacuolization
14	50?	f	c	Lobular pneumonia	Focal necrosis	Focal necrosis
15	7	f	w	Hemangiomata of brain	None	Congestion. Hyalinized tubercles
16	35	m	c	Dissecting aortic aneurysm and cardiac tamponade	Congestion	Congestion

nique was also considered not significant. Additional cases would not further emphasize this correlation. It is most striking that slight pathological changes such as vacuolization, pigment deposition, and distended sinusoids are easily recognized and, in almost all, properly graded as to the severity. Because of this observation we do not believe that liver biopsy is necessarily reserved for those in whom primary liver disease is suspected. In fact, the correlation of liver biopsy with liver function studies in diseases in which the liver may be secondarily involved may lead to a further understanding of the effects of these diseases upon the liver.

Tripoli and Fader[14] have reported 14 liver biopsies in which 7 were followed by autopsy. There was total agreement in these seven cases. Davis compared 15 cases that were biopsied and then autopsied, and in 12 there had been accurate diagnosis by biopsy. His cases included cirrhosis, carcinoma, and normal livers.

Since the clinical experience with this method indicates that with the Vim-Silverman needle or the Turkel needle the complications are rare, and since the experience of Davis, Tripoli and Fader and our own indicate that the diagnostic aid by this technique is great, we recommend this procedure to further clinical use.

SUMMARY

Tissues removed by the liver biopsy technique are contrasted with the autopsy results in 16 patients.

In ten examinations, there was complete agreement; in three the disagreement was in the degree of pathological change.

In two patients, focal liver lesions were missed, and in another slight vacuolization was not recognized.

These favorable results warrant the further clinical use of liver biopsy as a diagnostic measure.

BIBLIOGRAPHY

1. Hoffbauer, F. W.: *J.A.M.A.* **134**:666, 1947.
2. Gilman, T., and Gilman, J.: *S. African J. Med.* **10**: 53, 1945.
3. Baron, E.: *Arch. Int. Med.* **63**:276, 1939.
4. Iversen, P., and Roholm, K.: *Acta Med. Scand.* **102**: 1, 1939.
5. Dible, J. H., McMichael, J., and Sherlock, S. P. V.: *Lancet* **245**: Part II, 402, 1943.
6. Hoffbauer, F. W.: *J. Lab. Clin. Med.* **30**:381, 1945.
7. Hoffbauer, F. W., Evans, G. T., and Watson, C. J.: *Med. Clin. N. America* **29**:363, 1945.
8. Davis, W. D., Scott, R. W., and Lund, H. G.: *Amer. J. Med. Sci.* **212**:449, 1946.
9. Davis, W. D.: *N. Orleans Med. Surg. J.* **100**:159, 1947.
10. Schmidt, R. F., and Wells, A. H.: *Minn. Med.* **28**: 647, 1945.
11. Bang, J., and Wanscher, O.: *Acta Med. Scand.* **120**: 437, 1945.
12. van Beek, C., and Haex, A. J. Ch.: *Acta Med. Scand.* **123**:125, 1943.
13. Sherlock, S.: *Lancet* **249**:397, 1945.
14. Tripoli, C. J., and Fader, D. E.: *Amer. J. Clin. Path.* **11**:516, 1941.

50 Plaza Street.

CORRESPONDENCE

A Matter of Professional Ethics.

TO THE EDITOR:

For several years I have been of the opinion that in order to have more and better general practitioners the basic need is to reinstill confidence in the public for the family doctor. The specialist by proper ethics can do more to mold and increase the respect of the public for the family doctor than any one else. This, in turn, will cause young men to become interested in general practice quicker than any medical education program or any governmental interference. After reading Dr. C. C. Coleman's Guest Editorial in December 1949, VIRGINIA MEDICAL MONTHLY, with all of which I heartily agree, it occurred to me that some comments from a general practitioner might be in order.

All of us realize that medical science today is too broad and technical for anyone to be qualified in all fields. For example, the neurosurgeon, chest surgeon, bronchoscopist, ophthalmologist, urologist, orthopedist, internal medical diagnostician, etc., are essential for good medical care but the trained, educated general practitioner is capable of diagnosing and successfully treating 85 per cent of the sick people who seek medical care. Even in cases needing specialist care, the general practitioner can frequently be of assistance to him due to his general experience with the body as a whole and his knowledge of the patient's personal background.

In a revision of the AMA code of ethics I find it stated that the general practitioner should accept the opinion of a specialist as final. The fairer way when there is disagreement as to diagnosis or treatment would be to call in the third party for consultation and give the general practitioner's vote and reasoning equal consideration. I have had patients about whom a specialist disagreed with my opinion to be referred to another center and my original opinion in time to be confirmed. In the meantime, the treatment was changed by the consultant, the patient's condition became alarming before the third opinion was obtained, and the original therapy was resumed only after several weeks of unnecessary prolonged illness.

Dr. Coleman brings out the point of difference in the request for an examination and to take charge of the case. In my opinion, the consultant should not take over treatment except in emergency cases unless he has been specifically requested to do it, and he should advise the patient to return to his family doctor for treatment whenever he is capable. In addition, the consultant should give his instructions for treatment to the family doctor and not to the patient.

Articles published in medical journals by specialists stating the advantages and abilities of general practitioners to treat 85 per cent of illnesses and the necessity for him to have hospital privileges within his individual ability are read only by the medical profession because they are not published in lay magazines. The Public Relations Bureaus of our local, state, and national associations could render an invaluable service by helping to educate the general public along these lines in their publicity campaigns against socialized medicine.

Many times a referred patient is a lost patient forever. The obstetrician turns the baby over to a pediatrician before it leaves the hospital and requests the mother to return to him for her post partum examination; the surgeon requires the patient to return to him for dressings; and the opthalmologist refers the patient to an internal medical man for treatment of hypertension, and so on. After a few years of this, the general practitioner either decides that his lot will be easier if he specializes or else he finds it necessary to do all that he can himself, seeking ethical specialists whenever he needs consultants.

In conclusion, most of the leaders of our profession today declare that to provide adequate medical care free of governmental interference, we must restore the general practitioner to his former place in the profession and in the life of the patient and, to help accomplish this, we need the help of every man of our profession.

J. PAUL KENT, M.D.

Altavista, Virginia
January 4, 1950

XUM

CLINICOPATHOLOGICAL REPORTS

From the Case Records of the Medical College of Virginia and the University of Virginia Hospitals.

HARRY WALKER, M.D., *Editor*
WILLIAM KAY, M.D., *Associate Editor*

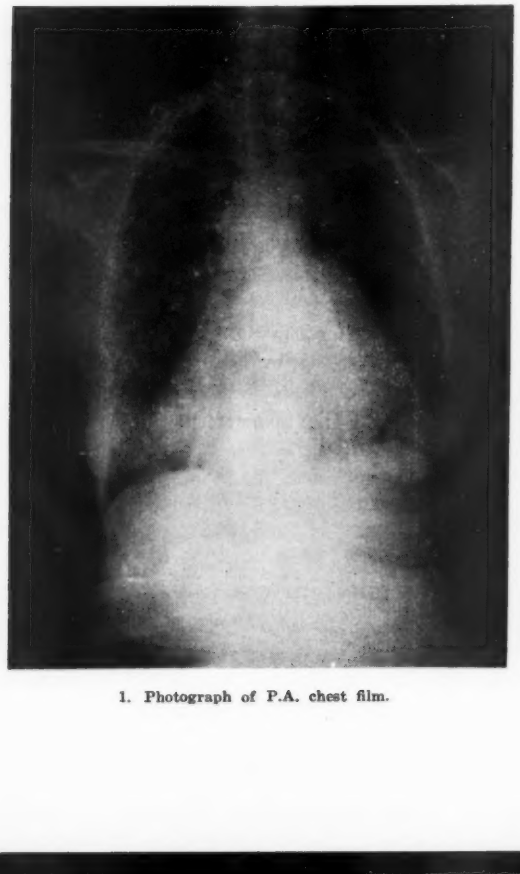
CASE NO. B-44758

The patient is a 60 year old white female who was well until two months before admission when she began to have spells of weakness and nervousness and shortness of breath, unrelated to exertion or meals. She also at times noted a sensation of heaviness and pressure in the right lower chest anteriorly which was aggravated by lying on her right side. Her symptoms progressed in frequency and severity until the time of admission. She had had no cough.

The past and family histories were non-contributory.

Physical examination: Temperature 98.4, pulse 88, respiration 20, and blood pressure 160/80. The patient was well developed, but rather poorly nourished and in no distress. The head and neck were essentially negative. The chest expanded symmetrically. There was dulness over the right anterior chest with dimished breath sounds and fremitus. The area of cardiac dulness seemed to be increased to the right side of the sternum. Cardiac examination was otherwise negative. The abdomen was negative. There was questionable clubbing of the fingers, but no cyanosis. The knee jerks were absent. The physical examination was otherwise negative.

Laboratory data: Urine specific gravity 1.010; albumin, sugar and acetone negative; 2-3 WBC and occasional RBC per HPF. Hemoglobin 15 grams, white blood count 9,400, 68% polys, 32% lymphs. Serology was negative. Vital capacity 69% (patient did not cooperate too well). An electrocardiogram showed only a sinus bradycardia with a rate of 54. An x-ray of the chest showed "marked enlargement of the right cardiac margin" with a cardiothoracic ratio of 71%. The transverse of the aortic arch measured 6 cm. (Illustrations Nos. 1 and 2).



1. Photograph of P.A. chest film.

2. Photograph of lateral view of chest film.

Following admission the patient's blood pressure dropped to 120/70, and remained there. She ran no fever. On the sixth hospital day an operation was performed.

*Discussed by Dr. John R. Massie, Jr.**

To summarize the positive findings, we have an elderly female patient, aged 60, who has had spells of weakness and nervousness and shortness of breath, with a feeling of heaviness and pressure in the right lower anterior chest, for two months, and apparently has lost no weight. I take that "undernourished" not to be any recent loss of weight.

Physical findings are essentially limited to the right anterior chest, where there is dulness, and diminished breath sounds, fremitus and enlargement of the right cardiac border are also present. There is a suggestion of clubbing of fingers; otherwise the physical examination is negative.

The laboratory tests are normal except for some decrease in the vital lung capacity and a sinus bradycardia. X-ray shows marked enlargement of the right cardiac margin, apparently due to a tumor-like mass of the anterior mediastinum, as may be shown on the lateral film.

An infectious process seems improbable, with a normal temperature and a normal leukocyte count.

An aneurysm is possible of the descending aorta, but the mass appears more like a tumor on x-ray, and no mention is made of any fluoroscopic studies for pulsation of the tumor; hence, I shall rule out aneurysm.

Encapsulated fluid always has to be considered, but it seems unlikely since it is not in a fissure line.

This leaves only tumors of the anterior mediastinum to consider and, as we all know, there are many such tumors. Malignancy in this location can be of almost any type, including the various forms of sarcoma, Hodgkin's disease, leukemia, carcinoma, and many others. Carcinoma in the anterior mediastinum usually is metastatic, although it can arise from the thymus or pulmonary tissue. The lesion here appears somewhat low for a thymic tumor. The fact that the patient had a normal hemoglobin, has lost no weight, and had a large nicely circumscribed, sharply demarcated tumor in the anterior mediastinum makes me think that it is benign rather than a malignant lesion.

A tumor of the diaphragm is possible, but appears unlikely since the dome of the diaphragm seems smooth in contour and the main bulk of the tumor seems well above it; subphrenic pathology also seems unlikely for the same reasons, and also because the diaphragm is not elevated and the costophrenic angles are clear. Diaphragmatic hernia should be considered, but also is not probable because it seems well anterior to the esophageal hiatus, which is the most usual place. This would be a rather odd location for a hernia since they are variously reported as fifteen or twenty times more frequent on the left side than on the right. Then, too, the patient has had no symptoms of having a hollow viscus incarcerated in the hernia. A herniation through the foramen of Morgagni is possible, but remote.

The next and most likely things to consider are benign tumors, arising in the anterior mediastinum, both solid and cystic, such as dermoids, pericardial cysts, bronchogenic cysts, echinococcus cysts, lymphangioma, lipoma, fibroma, teratoma, thymic cyst, intestinal rests, aberrant thyroid tumor, chondromas, etc.

All of the above mentioned tumors in the anterior mediastinum can cause the same approximate symptoms as occurred in this patient, including a decrease in the vital capacity, nearly all of which are due to pressure. Hence, the symptoms here are of no help in a differential diagnosis between the last tumors mentioned. We have, then, only the appearance of the tumor on the x-ray film as an aid to the exact diagnosis. The sinus bradycardia is probably insignificant; I don't know how it could be explained by the tumor, possibly pressure on the pacemaker or vagus; I don't know about that.

It is too smooth in contour and sharply demarcated to be a lymphangioma. Lymphangiomas are usually multiloculated and irregular in contour, and are densely adherent to all surrounding structures. Echinococcus cyst should be ruled out because of its rarity in this country, and also because the wall of the tumor is not characteristic on x-ray. It is not stated in the history whether or not the patient had ever lived in a country that commonly has echinococcus cysts, and it is noteworthy that most cases found in this country have at one time or another lived in other places.

A thymic cyst is possible and somewhat likely,

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though considered a rare tumor and probably should be located higher in the anterior mediastinum.

A chondroma is a likely diagnosis and could arise from the sternal or costal cartilages, and I can see no evidence on this picture of origin or attachment to these structures.

The exact differential diagnosis between a dermoid cyst, pericardial cyst, lipoma, fibroma, bronchogenic cyst and chondroma seems impossible here, and I believe it to be one of these tumors. It is usually not necessary to make such an exact differential diagnosis pre-operatively since any tumor of this size which causes such symptoms as this patient has had, even though recognized as benign, should be removed surgically regardless of what it is. If it were important to more accurately determine the diagnosis before operation, aspiration of the tumor, provided it is not infected, might be of some help by determining the character of the cyst fluid or tumor cells removed; also by inducing pneumothorax might give some clue as to the origin of the tumor; all this probably is unnecessary.

In order of frequency, a dermoid cyst is probably the most likely diagnosis. On the other hand, cases selected for conferences here are not the most likely things, and because of the general appearance of the tumor and its close proximity to the right pericardium, I am going to make a guess, and it is wholly a guess, of this being a pericardial collomic cyst.

These cysts, of course, are congenital, being a failure of one of the primitive lacunas to merge with the others, resulting in an independent cavity. If this diagnosis is correct, it seems remarkable that a person would wait 60 years for it to become large enough to cause symptoms, and most of them do, and then for the symptoms to progress so steadily in a period of two months. Their relatively sudden increase in size has been blamed on many things; such as trauma, upper respiratory infections, etc. Hemorrhage into the cyst seems entirely possible, following trauma, but the symptoms probably should not have been progressive as they were in this case. It is still one of the unsolved mysteries as to why the cells lining a cyst suddenly, or relatively suddenly, start secreting fluid into the cyst cavity, and I have no adequate explanation—the blood supply probably having something to do with it.

Hospital diagnosis: Pericardial cyst.

Dr. Massie's diagnosis: Pericardial collomic cyst.

Pathology: Discussed by Dr. Thomas M. Scotti.*

The specimen weighed about 317 grams, measured 12½ x 7 x 7 cm. (illustration No. 3). It had an extremely thin transparent wall, tissue-paper in thinness; in fact, I don't see how it was ever removed intact. We did not take sections of the cyst because we were requested by the surgeons to keep it intact, and the surgeons were satisfied with the diagnosis of pericardial cyst—and we were too; but, if we had taken a section it probably would have shown just an extremely thin fibrous wall with a single layer of mesothetial cells. That is all there is to it.

3. Photograph of specimen as received in pathology laboratory.

Pathological diagnosis: Pericardial cyst.

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PUBLIC HEALTH

L. J. ROPER, M.D.,
State Health Commissioner of Virginia

The report of the Bureau of Communicable Disease Control of the State Department of Health for December 1949 as compared with the same month in 1948, and for the period of January through December 1949 compared with the same period in 1948, is as follows:

	Dec. 1949	Dec. 1948	Jan.-Dec. 1949	Jan.-Dec. 1948
Typhoid and paratyphoid	4	10	148	136
Diarrhea and Dysentery	196	275	5,870	4,494
Measles	56	1,251	21,392	7,749
Scarlet fever	126	92	861	899
Diphtheria	44	36	220	265
Poliomyelitis	7	11	338	567
Meningitis	5	7	84	94
Brucellosis	4	8	72	82
Rocky Mountain spotted fever	0	0	101	64
Tularemia	10	7	40	57

COMMUNICABLE DISEASE TRENDS IN VIRGINIA AND THE UNITED STATES

In evaluating communicable disease control measures it is well to take periodic inventory in order to determine what new measures should be adopted and what tried measures should be emphasized. The following table lists the reported cases of certain communicable diseases in Virginia and the United States and shows percentage trends in 1948 and 1949:

Inspection of this table shows in the main that the trends in the United States are reflected in the figures for Virginia. The similarity is evident in percentage changes in Diphtheria, Scarlet fever, Influenza, and Typhoid fever. The dissimilarity in the Measles trends is due to the fact that Virginia had her periodic high incidence a year later than the country as a whole.

The significant exception is Poliomyelitis. 1949 showed an unprecedented incidence in this disease in the United States, with 42,375 reported cases—the highest incidence since 1916 and the highest on record. In comparison, Virginia was fortunate, with 337 reported cases in 1949 as compared with 567 in 1948.

In the communicable disease field there is, of course, a wide variation in control programs in the 48 states and the territories of the United States. The extent of immunization programs against preventable diseases varies in emphasis and thoroughness. Despite these individual variations the picture for the nation as a whole, as compared to an individual state (Virginia) has an interesting similarity. This would indicate that factors beyond individual state programs are possibly responsible. The epidemiologist is interested to discover what these factors are. Are they climate, economic conditions, better nutrition and therefore better resistance, or, is it possible that the principles of maintaining health are becoming widespread through education and that from a health standpoint we are really becoming one nation and on the threshold of becoming one world? These are interesting concepts and are especially applicable as geographic boundaries become closer in time and space and the world's perimeter contracts.

MAJOR COMMUNICABLE DISEASE AND PERCENTAGE CHANGE
Virginia and United States, 1948, 1949

Disease	Virginia 1949*	Virginia 1948	Virginia % Change	United States 1949*	United States 1948	United States % Change
Diphtheria	220	265	—17.0	8,039	9,725	—17.3
Influenza	10,078	19,442	—48.2	106,397	175,085	—39.2
Measles	21,392	7,749	+176.1	607,648	604,027	+ 0.6
Poliomyelitis	338	567	—40.4	42,375	27,676	+53.1
Scarlet fever	861	899	— 4.2	74,105	77,924	— 4.9
Typhoid-Paratyphoid	148	136	+ 8.8	3,617	3,592	+ .7
Whooping cough	1,378	2,271	—39.3	68,138	72,956	— 6.6

*Provisional figures.

MENTAL HEALTH

JOSEPH E. BARRETT, M.D.,
Department of Mental Hygiene and Hospitals

Problem of the Feeble-Minded in Virginia

It is the object of this article to bring to the attention of the medical profession of Virginia some of the pertinent features concerning the feeble-minded in this Commonwealth and some that concern the problem as a whole.

Few of us are cognizant of the size and significance of the problem of the feeble-minded (mental defective), and of the urgency on the part of the home, school, community, and State to formulate a coordinated constructive program to meet it. The extent of this problem is not such as to discourage an approach. Yet, the size and the necessary measures to take, demand a constructive organized program.

As to the size of the problem on a national scale, extensive research has indicated that the number of the mental deficients (feeble-minded) is approximately one and one-half per cent of the population or a million and a half of all ages in the United States. Of the 3,950,000 babies born last year, at least 37,000 were feeble-minded. Also, it is estimated that from two to five per cent of the juvenile population of the average American City can be considered mentally retarded. The large majority of these fall into the high grade mental defective and borderline groups. Research also indicates that from two per cent to three per cent of the school population are mentally retarded, and if the borderline group is included, the number may go as high as five per cent.

What does this mean to Virginia? The application of this scale applied to the Commonwealth on an estimated 3,029,000 population is: Feeble-minded of all ages approximately 45,000. Since the ratio of mental level among the feeble-minded is 5:20:75, there are 2,250 idiots, 9,000 imbeciles, and 33,750 morons in Virginia. Feeble-minded in our public schools population of 662,732 (583,729 actually enrolled) would be 6,627 on a conservative estimate.

Where are the feeble-minded in Virginia? By far the largest group (seventy-five per cent) the high grade mental defective (morons) are in communities and rural sections. It is estimated that eight per cent or lower of the feeble-minded are institutionalized. The State institutions get the low grades (idiots and imbeciles) and a small per cent of the morons—those who become asocial.

It is not the purpose here to discuss the care and training of the mental defective (See article to follow), however, it is this feature relating to the feeble-minded and mentally retarded juvenile that imposes a social obligation that has not been approached in a constructive way, and places a real liability on the community and state. The humanitarian aspect of the problem tends to overshadow the fact that the great large class of mental defectives (morons) can be trained to fit constructively in our society. This requires the proper approach by an enlightened home, the school, community, and the state. Without supervision and a special or modified program of training this large class of high grade mental defectives show a strong tendency to become social liabilities, drifting into delinquency and crime, prostitution, and some into insanity. They find competition hard and experience many frustrations.

The mental defectives (without psychosis) institutionalized in Virginia are shown below:

Lynchburg State Colony (white)	1692
Central State Hospital (colored)	613
Petersburg State Colony (colored)	250
Total	2555

In these institutions facilities and personnel are inadequate to cope with the load they carry. Dormitories are overcrowded beyond capacity standards, and neuropsychiatrists, as well as other classes of professional personnel, are not available at current salary levels. For a detailed expression of this need see the report of a group of twenty-one laymen, appointed by the Mental Hygiene Society of Virginia, who inspected the mental hospitals; also, the report of Charles J. Duke, Jr., Chief of Governor Tuck's Governmental Reorganization Staff.

While state institutions are prepared to receive feeble-minded children at an early age, most feeble-minded children live at home throughout life. If the child requires more attention than the home can give,

or is an economic burden, or its presence has a deleterious effect on other children, it should be placed in an institution. Few parents know the simple facts about feeble-mindedness, or how they can train and care for their handicapped child. Recently, there has been initiated in communities in some states parent organizations. In these, parents assist one another in their common problem of caring for a retarded child.

Our public schools have observed the necessity of a special or modified curriculum for pupils of retarded intellect. However, effort in this matter has been inadequate in degree as well as in its character.

Community and neighborhood guidance could often give the feeble-minded a job and a chance. The community that does not supervise its feeble-minded is guilty of creating a problem, and sometimes a menace.

At the State level, training schools (our colonies) are intended for children who cannot be trained and cared for otherwise at the local level. In addition to our institutions, community mental hygiene clinics have been established to aid in all matters relating to the care and training of the mental defective as well as to treatment of those suffering from mental illness.

Possessing some knowledge of the problem of the feeble-minded, as members of the Medical Society of Virginia, you can be a great aid in assisting local social, welfare and lay agencies in formulating a constructive program in respect to the "Forgotten Child", the mental defective.

Music in Hospitals.

Doctors are using music in surgery and in treating patients with mental illness, heart disease and a number of other diseases.

How music has assumed a new role as an aid in the operating room and on the hospital ward is told by musician Doris Paul of East Lansing, Mich., in the December issue of *Hygeia*, health magazine of the American Medical Association.

Like many drugs, music may serve as an aid for some and as a detriment to the health of others. It must be handled by the trained therapist if optimum beneficial effects are to be realized by the patient and harmful results avoided.

Billings Hospital in Chicago is chief among the institutions that use music in the waiting room while patients are being prepared for surgery and during their stay in the operating room. The patient is asked whether he likes music and whether he would like to have it during the operation. If the answers are affirmative, he is asked to suggest particular compositions he would like. If the patient is agreeable, and only five out of 177 were not, upon his transference to the operating room earphones are affixed and he goes to sleep to the tune he has ordered.

In the Veterans Administration Hospital at Marion, Ind., music is heard almost continuously in the pack room where treatment is administered to subdue violent patients. Music is loud to match their wild mood as they enter. They are quickly encased in wet sheets and wrapped. The volume of the music gradually is lowered as the yelling subsides, and finally the music is so soft that all in the room must be quiet to hear it.

In the Veterans Hospital in Minneapolis, the music therapist works hand in hand with the psychiatrist in dealing with persons undergoing insulin shock and electric shock.

Cardiac patients whose recovery depends on rest and relaxation are often invited to listen to soothing music—music with no sudden changes in tempo or volume.

In a Milwaukee hospital, a small girl suffering from arthritis that made breathing painful had to be encouraged to increase her lung capacity. Instead of doing monotonous breathing exercises, she was allowed to blow to her heart's content on a harmonica.

XUM

MEDICAL SOCIETY OF VIRGINIA
PUBLIC RELATIONS

HENRY S. JOHNSON, *Director*

Blue Cross—Blue Shield: The Medical Profession's Own Prescription

The progress of medical science and the excellence of care available in modern hospitals astound us; but the bills which follow this care are also astounding and often make a more lasting impression on the patient than does the excellence of the service he receives. The cost of prolonged or serious illness falls heavily on the average family's finances. This causes hardships which frequently breed resentment. Too often the doctor inherits this resentment, while the type of politician who offers "all for nothing" gains an ardent supporter. In view of these well worn facts, it behooves the physician to forget that he has done all that has traditionally been expected of him when he has treated the patient's body and psyche. He must also help the patient find a less painful plan of meeting his financial problem.

To meet this problem, hospitals established Blue Cross and more recently, physicians organized Blue Shield. These plans have gone far toward removing the financial hardship of serious illnesses among their subscribers; but better enrollment must be sesured if these plans are to make their full contribution.

Blue Cross and Blue Shield have achieved phenomenal success with their respective plans through the enrollment of large industrial groups, but since, at about the cost of a package of cigarettes a day, complete coverage for hospitalized illnesses is being supplied to family groups, there is no money for extensive sales forces or door to door selling. Since much of the urban population does not lend itself to group enrollment, and since 65 per cent of Virginia's population is rural, it is obvious that an economical method of carrying the Blue Cross—Blue Shield message to the individual must be devised. This can be done at almost no expense if the individual physician will take an active interest. In one Virginia county, physicians have successfully used the following methods:

1. Enclosed with bills a small folder which points out the advantages of subscribing to these plans. This advertisement carries an invitation to the patient to fill in his name and address on the folder and mail it to the Blue Cross—Blue Shield office for an application blank.
2. Displayed the Blue Cross—Blue Shield calendar in the waiting-rooms, assuring the patient of the physician's interest in these plans.
3. Kept promotional literature and application blanks on the waiting-room tables.
4. Taught office assistants to fill out applications for patients when this is requested.
5. Familiarized themselves with the pertinent facts of the contracts as set forth in brief outline on the promotional literature. (This requires not more than 15 minutes of study.)

This simple, inexpensive method of promoting these plans has resulted in an enrollment unequaled in any other purely rural area in Virginia, and perhaps greater than any in the country, with the exception of those rural areas which have large organized farm groups enrolled.

Many physicians have not helped the prepayment plans because they object to certain features of the contracts or because of conflicts of personalities. Those of us who have worked in Blue Shield and Blue Cross share these objections. We know of more imperfections than the dissenters, but we also recognize the virtues of the plans. We feel that only through these plans is it possible for the lower income groups to take care of their catastrophic illnesses. With time and experience, these plans can be greatly improved. Meanwhile, they are protecting hospitals from losses and guaranteeing physicians at least a moderate fee from persons of small means.

In conclusion attention is directed to certain self-evident facts:

1. The problem of financing major illnesses among the lower income group *exists*.
2. This problem must be solved in the very near future either through voluntary insurance or —socialized medicine! Time is running short.
3. Existing Blue Cross and Blue Shield plans can be materially effective in solving this problem,

if they can gain sufficient enrollment.

4. This enrollment can be attained economically and efficiently by cooperative physicians.
5. All physicians must become participating physicians, help with enrollment, and help improve their plan. Remember it is the medical profession's own prescription.

WM. R. PRETLOW,
Chairman Board of Directors
Virginia Medical Service Association

Public Relations Committee Meeting Successful

A meeting of the Public Relations Committee was held at the Ruegers Hotel on December 14, 1949 for the purpose of discussing plans for the coming year.

Those in attendance were Dr. W. C. Caudill, President of the Medical Society of Virginia, four members of the Council and members of the Reorganization Committee.

One of the topics of discussion was a list of Proposed Public Relations Activities for 1950 for local medical societies. These were endorsed and will be made available to the local medical societies in the near future.

The value of conferences for members of the District Council in their respective Congressional Districts was considered and the continuance of these was recommended.

Copies of Dr. Marjorie Shearon's reports (American Medicine and the Political Scene) were up for discussion and it was decided that these should be made available to the Council, members of the District Council, and generally for an official in each local medical society during the next six months.

Another item of literature "The Road Ahead" by John T. Flynn was enthusiastically endorsed. If any one doubts the importance of what Mr. Flynn has to say in his book they could refer to what at least one columnist has written on it.

Westbrook Pegler in an article concerning this book suggests that "The Road Ahead" is one of the foremost pieces of literature, politically, in our time. He indicates that the book made him conscious of the fact that Socialism is Communism and our "planners" are making preparations for Communism.

The Objectives for the Year of the President of the Medical Society of Virginia were presented and discussed with the view of implementation.

This conference was another indication of the serious work of the Public Relations Committee. All members were present and entered freely into the discussion.

The Die Is Cast

The second session of the 81st Congress has begun . . . and with it renewed effort to enact into law bills that would place American medicine under the thumb of Socialism.

President Truman in his State of the Union message reaffirmed his desire for a greatly enlarged social security service, increased coverage and benefits of the unemployment compensation law and the establishment of a system of "medical insurance" which would promise to afford medical care to everyone.

That in essence is the road that Mr. Truman would have the American people believe is best for them, but he fails to explain just what this would cost or how to meet this expense.

The implementation of Mr. Truman's program could get a quick start in the passing of Senate Bills 1679, 1453, 1411 and H.R. 6000.

Senate Bill 1679 would provide medical care to approximately 85 per cent of the population through National Compulsory Health Insurance. There would be an initial three per cent tax on wages up to $4,800 with additional needed funds made available from the Treasury.

Senate Bill 1453 proposes Federal funds to assist the States in providing general health, hospital, medical, and dental services for persons unable to pay the whole cost of the voluntary insurance plan.

Senate Bill 1411 presents the Administration's $35,000,000 program for aid to States in providing health examinations and treatment of such physical and mental defects and conditions for all school children (between ages five and seventeen) . . . regardless of economic status of parents.

H.R. 6000 is the Administration's version of liberalization and extension of the present Social Security Law. Eleven million people would be added to the rolls of Social Security and the maximum taxable portion of wages would be raised to $3,600. Also included in the bill is a provision for compulsory contributions for permanent and total disability insurance. The American Medical Association is opposed to the latter provision.

Opposition to these four bills has been registered

by the American Medical Association and it is suggested that active opposition be registered by organizations and individuals.

The die is cast . . . now is the time for action.

Virginia State Legislature Convenes

The 1950 session of the General Assembly of Virginia convenes Wednesday, January 11.

At this moment there is some uncertainty over the extent to which the Legislative Committee of the Medical Society is prepared to advise the membership on legislation of concern.

It seems certain, however, that matters will be brought up that will either call for the endorsement of, or opposition from the Society.

Perhaps, for the time being, it would be well for the membership to be legislative conscious and in readiness to be alerted by the committee when needed.

The Use of Libraries in Our Educational Campaign

During the past few weeks plans have been made to distribute educational materials to public school libraries throughout the State.

Key people in the Department of Education were contacted and their views solicited. Acting with their consent and advice a letter was sent to each Division Superintendent in the State telling of our desires and asking permission to distribute materials in his division. A kit of these materials was sent to each Superintendent along with a copy of the proposed letter to the librarians for approval.

This material is of course going out and it is believed that this will serve a purpose in educating the pupils and school personnel to the point of view of the medical profession.

Approximately eighty reply cards of consent were returned representing some three hundred and fifty schools.

Similar materials are being sent also to the public libraries and to the libraries of institutions of higher learning.

Perhaps it might be stimulating if those interested in our Educational Campaign might inquire of, or otherwise express some interest in, these materials at the libraries.

BOOK ANNOUNCEMENTS

Essentials of Obstetrical and Gynecological Pathology. By ROBERT L. FAULKNER, M.D., F.A.C.S., Assistant Professor of Gynecology, The Western Reserve Medical School; Associate Gynecologist, University Hospitals of Cleveland, Ohio. And MARION DOUGLASS, M.D., Formerly Assistant Professor of Gynecology, The Western Reserve Medical School. St. Louis, The C. V. Mosby Company. 1949. 357 pages, with 300 illustrations including 3 color plates. Cloth. Price $8.75.

Human Growth. The Story of How Life Begins and Goes On. Based on the Educational Film of the Same Title. By LESTER F. BECK, Ph.D., Associate Professor of Psychology, University of Oregon. With the Assistance of Margie Robinson, M.A. Harcourt, Brace and Company, New York, 1949. 124 pages. Cloth. Price $2.00.

From the Hills. An Autobiography of a Pediatrician. By JOHN ZAHORSKY, M.D. St. Louis, The C. V. Mosby Company. 1949. 388 pages. Cloth. Price $4.00.

For The New Mother. By MILDRED V. HARDCASTLE, R.N. Illustrations by Shirley Tattersfield. The John C. Winston Company, Philadelphia, 1948. Cloth. xii-163 pages. Price $2.00.

This publication is a thorough guide for the inexperienced mother. It first emphasizes the infant's care at the time the mother actually gains possession of the offspring, upon leaving the hospital. There are well-regulated schedules and diets to aid the mother through the first year. There is an excellent chapter, with simplified explanation, for the mother to cope with emergencies. An important feature of the book is the idea stressed by the author that the mother should maintain her individuality by developing hobbies and diversions that fit in with her new form of life.

The book is well bound with the printing in good type on a light, soft, non-glare paper. Reading the text should be recommended to the new, inexperienced mother.

JANE WEMPLE, R.N.

XUM

EDITORIAL

Ephraim McDowell

THE Cohees of Virginia were a remarkable people and played extremely important roles in the development of the Nation. In comparison with the Tuckahoes who lived east of the Blue Ridge they were racially, more homogeneous being for the most part Scotch-Irish with a big sprinkling of Palatine Germans and they possessed two characteristic qualities, a love of liberty, which had made them leave their homeland, and a thirst for learning which was second only to their religion. In fact it was a part of their religion. They were a hardy and efficient people; they had to be to survive the hard Virginia frontier. This small group furnished the nation not only with Ephraim McDowell and his heroic patient, Jane Todd Crawford, but Jesse Bennett, who performed the first Cesarean section in America, and his equally heroic patient, Mrs. Bennett, Alexander Humphreys who taught McDowell, Samuel Brown and eight other less well-known physicians, Cyrus McCormick, the inventor of the reaper, James A. E. Gibbs, the inventor of the chain stitch sewing machine, Archibald Alexander, the theologian, and John Letcher, the statesman, and the many-sided Sam Houston.

It is usually stated that Ephraim McDowell was born in Rockbridge County, Virginia, March 11, 1771, a few miles from where Jenny Todd, his famous patient, was born eight years earlier. As a matter of fact they were born in Augusta County, for at that time Rockbridge County, as well as the whole State of Kentucky, was a part of Augusta County, Virginia. Ephraim's parents, Samuel and Sarah McClung McDowell, were prominent people of Virginia. When Ephraim was twelve years old, they moved to what is now Danville, Kentucky, because Samuel McDowell had been appointed by the Legislature of Virginia, Land Commissioner. Jenny Todd moved to Green County upon her marriage to Thomas Crawford, January 9, 1794. The ceremony, by the way, was performed by the Rev. Samuel Houston in Lexington, Virginia.

When he was nineteen years of age, Ephraim came back to Virginia, for by that time Kentucky had become a separate State. He began the study of medicine under Alexander Humphreys and in 1793 he went to Edinburgh, where he studied at the University and privately under John Bell. Much has been said of Bell's influence on his pupil, especially Bell's conviction that a diseased ovary was a hopeless condition. Too little has been said about the medical influences on this side of the Atlantic. When McDowell returned from Edinburgh in 1795, he must have stopped by Staunton to visit his preceptor. It was directly on his route, and he probably spent at least one night with him. Hugh Trout suggests that they surely discussed the much talked of operation that Jesse Bennett had performed on his wife six months previously, thirty miles distant at Edom. Not only was it the first successful Cesarean section in this country, but it was the first time the ovaries had been removed. Dr. Humphreys knew all the details, for he had been the consultant in the case.

So much has been said about the primitive conditions and lack of surgical facilities on the frontier that one gets the impression that surgery there was both infrequent and inferior. It is true that laparotomies were not done, but that was true all over the world. In 1806 Dr. Walter Brashear of Bardstown performed the first successful hip joint amputation in the world. Dr. Benjamin W. Dudley of Lexington, Kentucky, another neighbor of McDowell's, is credited with having performed 225 lithotomies and also with ligating the subclavical artery for an aneurism in the axilla.

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The first ovariotomy has been so frequently described that the story is a familiar one. In December 1809 Dr. Ephraim McDowell was called to see Mrs. Crawford who was thought to be pregnant. She had gone past her due date and was having pains but made no progress. Dr. McDowell examined her and found that she was not pregnant, but was suffering from an ovarian cyst. The outlook was hopeless unless the tumor were removed. He explained to Mrs. Crawford that such an operation had never been done but that he was willing to try the experiment, provided she would come to Danville. She consented at once and made the journey on horseback, a distance of 60 miles.

The operation was done in the doctor's house on Sunday morning, as was his custom, so as to get the benefit of the prayers in the churches. Dr. James McDowell, the doctor's nephew, began the incision and Dr. Ephraim McDowell completed it, taking about twenty-five minutes. He was unable to deliver the cyst until he evacuated fifteen pounds of dirty gelatinous material. At this point the intestines escaped and could not be replaced until after he had removed the sac, which weighed seven pounds. He already had put a stout ligature about the pedicle. The patient was now turned on her left side so as to allow the blood to escape and he closed the external opening with interrupted sutures and adhesive plaster, leaving out at the lower end of the incision the ligature which surrounded the Fallopian tube. The patient bravely repeated Psalms all during the operation. On the fifth day she was up making her bed and in 25 days she went home, completely cured.

With the years the story has been greatly embellished. One embellishment is that a local preacher, while the operation was going on, told his congregation that such an operation was unheard of and was nothing short of murder. Another tale is that an armed and angry mob collected and was dispersed by the sheriff. James Thomas Flexner in his "Doctors on Horseback" makes it more dramatic by saying that the mob awaited with a rope thrown over a limb so as not to lose any time in stringing up the doctor in case he failed. Flexner fixes the date of the operation as December 25th. The mob story is probably pure myth. Samuel W. Gross, one of the first to describe the operation and who knew the people and the place well, makes no mention of it, although he spared no effort to gather all the details. The best answer to the mob story was given in 1912 by Col. Nick McDowell. He asked, considering the Doctor's character and standing in the community, what would have happened to the mob? As to the date, Christmas day in 1809 fell on a Monday.

In 1813 Dr. McDowell operated on a negro woman and in 1816 upon another one. He reported these three cases in 1816. Two years later he reported two more cases. All patients recovered except the last one. He sent a copy of his first report to John Bell in Edinburgh, but in Bell's absence it fell into the hands of John Lizars who was filling Bell's place. In 1823 Lizars essayed an ovariotomy but instead of a tumor he found only a mass of fat. In 1825 he made three additional attempts. Of these, one patient recovered, one died, and in the third the operation was abandoned. In 1821 Nathan Smith at Dartmouth performed a successful operation without knowledge of McDowell's operations.

McDowell's reports met with adverse criticism and disbelief. This, along with Lizar's failures, delayed the adoption of McDowell's operation some thirty years, when the operation was revived by the Atlees, Peaslee and others in this country, and by Charles Clay of Manchester, England. McDowell continued to operate and did altogether thirteen ovariotomies.

XUM

McDowell did not recognize the full implications of his operation, nor did anyone else, for that matter. That it opened up a new and important field of surgery was not dreamed of for some years. Much credit is due to S. W. Gross who put the operation in its proper prospective and in seeing that McDowell was accorded his proper credit.

Every one who has written on this subject has been full of praise of McDowell's private life and character. When he was 31 years old he married Sarah Hart, the daughter of the first Governor of Kentucky. They lived very happily together and she bore him six children. He died on June 20, 1830, after a brief illness, following the hearty eating of strawberries. Schachner thinks it may have been appendicitis. That the "Father of Ovariotomy and the Founder of Abdominal Surgery" should have died of such a disease would be the irony of fate.

This is the 9th of a series of "Doctors for whom the public should be thankful."

Manikin Obstetrics

WHEN Mme. DuCoudray, in the 18th Century, went about France with her machine teaching midwives, the manikin was a useful innovation in the teaching of obstetrics. At the recent clinical sessions of the American Medical Association, especially designed for general practitioners, the manikin occupied a prominent place on the program, in demonstrating breech extractions and forceps delivery. These courses were so popular that we were unable to get in the room, much less to find a seat. We do not know how the demonstrations were conducted so what we have to say on this subject has no reference to the Washington meeting.

We had thought that the manikin was not only an outmoded but a dangerous way of teaching obstetrics. There is nothing realistic about it, even when an embalmed fetus is used. The sutures and fontanelles do not give the same touch picture that a baby, which had undergone moulding and edema incident to labor, does. More important is the absence of anything that looks like or feels like a cervix. In breech deliveries, and forceps deliveries, it is more important to know "when" than "how". The manikin exercises emphasize the "how" and ignore entirely the "when". The result is that the medical schools have been sending out graduates who are keen to do forceps operations but who have no idea about what a cervix feels like. Every community has one or more doctors who never learn to tell when a cervix is dilated. They keep sending to the hospital cases of "failed forceps" in which the cervix is only two or three fingers dilated. Another type is the doctor who is more expert and who manages to deliver the baby, but the mother has severe loss of blood from cervical lacerations. These doctors become as well known to the hospitals as the kleptomaniac to the retail merchants, and they are as incurable. The trouble with such doctors is the way they were taught in the medical schools. The manikin should be relegated to the museum and obstetrics should be taught on the patient. If there be not enough clinical material, it would be better to use moving pictures where emphasis can be put on the condition of the cervix rather than on the technic of breech extraction or the application of the forceps. A well designed motion picture can show the presentation of the fetus and the relation of the cervix to the presenting part by diagrams, and, after full dilatation, the actual operation. In this way the importance of the cervix can be emphasized. Of course the student's sense of touch is not educated but at least he does not get a false touch picture.

XUM

Hugh Henry Trout, Sr.
(1878-1950)

ON Friday, January 13th, Dr. Hugh Trout, Sr., died of coronary thrombosis at his home in Roanoke. For many years, Dr. Trout has been prominent in the affairs of the Medical Society of Virginia, and was its president in 1940. He was born in Staunton, June 6, 1878, the son of Philip H. and Olivia (Benson) Trout. Upon graduating in medicine at the University of Virginia in 1902, he went to Baltimore for hospital training. He served as interne in the Johns Hopkins Hospital, 1902-4, under the late Hugh Young, as surgeon in St. Joseph's German Hospital, 904-5, and Union Protestant Infirmary, 1905-8. He studied abroad 1907-8.

In 1908, he built the Jefferson Hospital in Roanoke and has been its surgeon-in-chief since 1910, except for two years during the first World War when the hospital was closed, while Dr. Trout served as a Lieutenant-Colonel in the Army Medical Corps overseas. In the second World War, he was chairman of Procurement and Assignment Service for Physicians in Virginia. He was a Fellow of the American College of Surgeons and a member of the American Medical Association, the Southern Medical Association, the American Surgical Association, the Southern Surgical Association (president in 1931), and the International Surgical Association. He was a past president of the Roanoke Academy of Medicine. He was a contributor to many medical journals. He was also interested in the history of medicine and wrote an authoritative account of the *"Scotch-Irish" of the Valley of Virginia and Their Influence on Medical Progress in America,* for the *Annals of Medical History.*

Dr. Trout was a good surgeon and a good citizen. He was an honorary member of Alpha Omega Alpha, a Phi Kappa Psi, a Mason and a Rotarian. He was a good churchman and was a vestryman and senior warden of Christ Episcopal Church for many years. At the time of his death, he was a member of the board of visitors of the Virginia Episcopal Seminary in Alexandria and of the University of Virginia.

Dr. Trout was married twice. His first wife, Leonora Cocke, died in March 1924. In 1926 he married Alice Green, who survives him. He is also survived by three sons and two daughters, Mrs. Herman Holster, Dr. Hugh H. Trout, Jr., Dr. Philip Cocke Trout, Miss Alice Green Trout, and Albert Henry Trout.

In the death of Hugh Trout, the MONTHLY loses a good friend and a helpful critic.

SOCIETY PROCEEDINGS

Accomack County Medical Society.

Members of this Society were entertained at a buffet supper at the office of Dr. Henrik Shelley in Chincoteague on the evening of December the 8th. Dr. I. Rivers Hanson, obstetrician and gynecologist of Salisbury, Maryland, who had recently returned from several months in England, spoke on "Socialized Medicine in England" and of the way the medical profession feels in regard to it. Several visitors were present in addition to the members.

Officers elected at this meeting are: President, Dr. John W. Robertson, Onancock; vice-president and president-elect for 1951, Dr. Glenn Parks, Temperanceville; and secretary-treasurer, Dr. James C. Doughty (re-elected), Onancock.

Arlington County Medical Society.

At its regular monthly meeting on December 15th, the following officers were elected to serve for the calendar year 1950: President, Dr. Robert C. Hood; vice-president, Dr. John B. Leary; secretary, Dr. Harry C. Bates; treasurer, Dr. J. Raymond Hutchinson. All are of Arlington.

Joint Meeting.

The Arlington-Fairfax branch of the Association of American Physicians and Surgeons sponsored a

meeting on December 13. Physicians of surrounding Virginia counties were invited to hear a report on the British National Health Plan by Dr. Marjorie Shearon, who had recently returned from an inspection trip throughout England, and were also addressed on proposed medical and social legislation by Mr. Harry Northam, Executive Secretary of the Association of American Physicians and Surgeons.

Fredericksburg Medical Society.

At the annual meeting of this society on December 9, the following were elected as officers for the ensuing year: President, Dr. John L. Smoot, Fredericksburg; vice-president, Dr. W. H. Johnson, Spotsylvania; and secretary-treasurer, Dr. C. V. Cimmino, Fredericksburg.

The Fourth District Medical Society

Held its regular meeting on December 13, at Central State Hospital, Petersburg, under the presidency of Dr. J. A. B. Lowry of Crewe. A banquet was held at Hotel Petersburg in the evening. Officers elected for the ensuing year are: President, Dr. Fletcher J. Wright, Petersburg; vice-presidents, Drs. Meade S. Brent, Petersburg, and R. H. Manson, McKenney; secretary-treasurer, Dr. William S. Sloan (re-elected), Petersburg; and chairman of Steering Committee, Dr. Carney Pearce, also of Petersburg.

Northampton County Medical Society.

Dr. W. C. Henderson was elected president of this Society for 1950, Dr. J. E. Gladstone vice-president, and Dr. J. R. Mapp was re-elected secretary-treasurer. Dr. Charles Robertson was elected to the Board of Censors. The Society met January 12th at Eastville Inn.

Dr. W. J. Sturgis, Jr., gave an illustrated lecture on Obstructive Lesions of the Urinary Tract. Dr. J. R. Mapp demonstrated some such cases radiographically.

The forthcoming drives for funds for the new Nurses Training School and Home and for Poliomyelitis were discussed, and a new member was welcomed.

Dr. J. M. Lynch was the retiring presiding officer.

The Northern Virginia Medical Society

Met in Strasburg, December 13, with Dr. Harold Miller of Woodstock presiding. An interesting case report and a paper on fractures were presented by Dr. Elizabeth Sherman of Front Royal and by Dr. Bradford Bennett of Winchester. Dr. Edward Ray of the Medical College of Virginia, Richmond, the invited guest speaker, reported on two cases "Unresolved Pneumonia" and "Carcinoma of the Lung", using lantern slides during their presentation.

Officers elected to serve during 1950 are: President, Dr. James Miller, Winchester; vice-president, Dr. George Long, Luray; and secretary-treasurer, Dr. Frank Gearing, Jr., Woodstock. Two doctors were admitted to membership. It was decided to hold the next meeting in Winchester on April 11.

The Williamsburg-James City County Medical Society

Held its regular bi-monthly dinner meeting January 13, at the Williamsburg Lodge, following a social hour at the home of the vice-president, Dr. Eleanor Beamer Maxwell, who presided at the meeting.

A letter from Dr. Wyndham Blanton, Chairman of the Committee on Coroners of the Medical Society of Virginia, was read calling attention to the proposal to transfer the office of the Chief Medical Examiner to the Department of State Police. After a brief discussion, a motion was made by Dr. Stokes and was unanimously passed, instructing the Secretary to write letters to the Governor, the President of the Senate and the Speaker of the House of Delegates, voicing the opposition of the Society to this measure.

A letter from Dr. George F. Lull, Secretary of the American Medical Association, quoted some recent changes in the By-Laws of the American Medical Association, which have the effect of raising the dues $25.00 per year. No action was taken by the Society.

A letter from Dr. W. Roy Mason, Jr., of Charlottesville, announced the establishment of a memorial to Dr. Staige Davis Blackford and solicited contributions. This was approved but the matter of contributions was left to individual members.

Dr. Mason Romaine, of Petersburg, Chief of the Cancer Control Division of the Virginia Department of Health, made a talk in which he described the work of his organization and presented a motion picture, illustrating the value of early diagnosis and effective treatment in reducing the death rate of malignant disease.

GRANVILLE L. JONES
Secretary

XUM

Wise County Medical Society.

The regular meeting of this Society was held at the hotel in Norton, December 14, with an attendance of 30. After a good "Dutch treat" steak dinner, Dr. Mathew T. Moorehead of St. Marys Hospital, Norton, gave a lecture on some interesting surgical cases, which was illustrated with color slides. Dr. John D. Winebrenner, Area Medical Administrator for the United Mine Workers Welfare and Retirement Fund, spoke briefly. This was followed by an informal conference participated in by most of the members. Wyeth's new talkie color picture on "Allergy" followed. Several new members were elected.

Scott County Medical Society.

A meeting of the Scott County doctors was called early in December at which time the society was reactivated, and the following officers were elected: President, Dr. W. L. Griggs, Jr.; vice-president, Dr. Jack S. Shaver; secretary-treasurer, Dr. G. C. Honeycutt, Jr. All are of Gate City. At this meeting several new members were admitted.

Roanoke Academy of Medicine.

At the meeting of the Academy on January the 9th, the scientific program was given by Dr. Alexander McCausland on Observations on the Management of Asthma Associated with Sinus Disease, and Dr. E. J. Palmer, whose subject was Electroshock Therapy. Dr. Marcellus A. Johnson, Jr., is president of the Academy and Dr. Wm. H. Kaufman secretary-treasurer.

The South Piedmont Medical Society,

At a recent meeting, elected Dr. W. C. Brann of South Boston as president, and Dr. T. J. Moran of Danville as secretary.

Shenandoah County Memorial Hospital.

The Medical Staff has been named for this new hospital now under construction just south of Woodstock. Dr. Harold W. Miller of Woodstock has been named as chief of the medical staff, with Dr. J. M. Winkfield of Strasburg as assistant chief. Dr. Frank W. Gearing, Jr., of Woodstock is named as secretary with Dr. R. W. Stoneburner of Edinburg and Dr. Edward Hopewell of Strasburg as members of the executive committee. Dr. R. C. Fravel of Woodstock was appointed chairman of the medical advisory committee of the board, with Drs. G. R. Waterman and F. W. Gearing, Sr., other members of the committee.

The Smyth County Medical Society

Held its December 15 meeting as dinner guests of the Kiwanis Club of Saltville. Dr. D. C. Boatwright, retiring president, reported on the accomplishments of the Society during the year. Following this, Dr. R. C. Potter read some letters in response to a summary concerning the Smyth County Plan for the care of Smyth County indigents which had been sent to various Congressmen and medical societies.

Mr. Frank Galligher, general field representative of the American Red Cross, spoke on the establishment of the regional blood center in Roanoke and how this service was to be organized in that county. The Society voted unanimously to approve the new Red Cross program and the following were appointed as members of a committee for this purpose: Drs. Walter Schiff, D. C. Boatwright, Wm. N. Greever, C. C. Hatfield, L. E. Jarrett, T. K. McKee, A. D. Hutton and J. R. Blalock, with authority to appoint their own chairman.

The following officers were elected for the ensuing year: President, Dr. C. C. Hatfield, North Holston; vice-president, Dr. R. H. Harrington, Marion; secretary-treasurer, Dr. R. C. Potter (re-elected), Marion. Delegate and alternate were named to represent the county in the House of Delegates at the State Society.

Dr. R. H. Harrington was named to serve on the board of censors for three years, and members were appointed on the following committees: *Program and Scientific,* Drs. R. C. Potter, Don Greever and J. A. Soyars; *Public Health and Legislation,* Drs. James Suter, L. E. Jarrett and Walter Schiff.

RICHARD C. POTTER,
Secretary-Treasurer

The Virginia Peninsula Academy of Medicine

Held its January 16 meeting at the Coca Cola Building in Newport News, under the presidency of Dr. Russell Buxton of that city. The guest speaker was Dr. Mims Gage of New Orleans, the recognized world authority on the subject which he presented—"The Management of Acute Pancreatitis". A cocktail hour and dinner preceded the meeting. Dr. Benjamin Miller of Kecoughtan is vice-president, and Dr. William A. Read of Newport News, secretary-treasurer.

NEWS

The Tri-State Medical Association of Virginia and the Carolinas

Is to hold its annual meeting in Fayetteville, North Carolina, February 20 and 21, under the presidency of Dr. Russell Buxton of Newport News. Headquarters will be at the Prince Charles Hotel. Other Virginia doctors among the officers are Dr. Jos. E. Barrett, Richmond, vice-president, and Drs. Rex Blankinship, Richmond, J. W. Devine, Jr., Lynchburg, and Dr. William A. Johns, Richmond, councilors.

Information about the meeting may be obtained from the secretary, Dr. J. M. Northington, Charlotte, North Carolina.

Health Department News.

South Norfolk has been joined with Norfolk and Princess Anne Counties to form the Norfolk-Princess Anne-South Norfolk Health District and Dr. William Y. Garrett has been placed in charge of the combined district. He will continue to have his offices in Portsmouth.

Dr. Richard B. Wissinger has been named as health officer of the Alleghany-Botetourt Health District.

Dr. E. D. Hardin, who has been in charge of the Shenandoah-Warren Health District, has announced his resignation to accept a position with the State Board of Health of North Carolina.

Spring Congress.

The Gill Memorial Eye, Ear and Throat Hospital, Roanoke, announces its twenty-third annual spring Congress in ophthalmology and otolaryngology to be held in that city, April 3-8, at the Hotel Patrick Henry. Guests of honor include Sir Alexander Fleming of London, England, Dr. C. W. Mayo of Rochester, Minn., Drs. Conrad Berens and Arthur J. Bedell of New York, and Drs. Edmund Spaeth and Gabriel Tucker of Pennsylvania, as members of the faculty. Information in regard to the Congress may be obtained upon inquiry sent Dr. E. G. Gill, Box 2467, Roanoke.

Dr. A. J. Crutchfield,

Recently assistant professor of internal medicine at the University of Virginia Medical School, has offered his resignation to become effective January 1. He will be located in Winston-Salem, N. C., where he will specialize in internal medicine.

Dr. Augustine W. Tucker,

Until recently director of St. Luke's Hospital in Shanghai, China, has been named resident physician at Woodberry Forest School and will enter upon his duties there early in the year.

The Southeastern Surgical Congress

Will hold its Postgraduate Assembly at the Shoreham Hotel in Washington, D.C., March 6, 7, 8, and 9. Information in regard to this may be obtained from the secretary, Dr. B. T. Beasley, 701 Hurt Building, Atlanta 3, Georgia. The speakers will include: Drs. Otto C. Brantigan, Albert E. Goldstein, William F. Rienhoff, Jr., and George H. Yeager of Baltimore; Dr. Richard Cattell of Boston; Drs. Harry Lee Claud, Edgar W. Davis, Harry H. Kerr and Charles Stanley White, Washington, D. C.; Drs. Conrad G. Collins, Lucien A. LeDoux, Howard Mahorner and Neal Owens of New Orleans; Dr. Enoch Callaway, LaGrange, Ga.; Dr. J. D. Martin, Jr., Atlanta; Dr. J. C. Patterson, Cuthbert, Ga.; Dr. Williams C. Cantey, Columbia, S. C.; Dr. Henry W. Mayo, Jr., Charleston, S. C.; Dr. Bayard Carter, Durham, N. C.; Dr. A. T. Miller, Jr., Chapel Hill, N. C.; Drs. Donald S. Daniel and H. H. Ware, Jr., Richmond; Dr. Gilbert F. Douglas, Birmingham; Dr. William F. Harper, Selma, Ala.; Drs. Frederick H. Falls and Raymond W. McNealy, Chicago; Dr. D. P. Hall, Louisville; Dr. Hal E. Houston, Murray, Ky.; Dr. Archibald C. Hewes, Gulfport, Miss.; Dr. Willard H. Parsons, Vicksburg; Dr. William F. Meacham, Nashville, Tenn.; Dr. Charles B. Olim, Memphis; Dr. Louis M. Orr, Orlando, Fla.; Dr. Joseph S. Stewart, Miami; Drs. George T. Pack and William Crawford White, New York; Dr. Charles Rountree, Oklahoma City; Dr. Hays R. Yandell, Tulsa; Dr. Gabriel Tucker, Philadelphia; Dr. William L. Valk, Kansas City, Kan.; and Dr. Robert J. Wilkinson, Huntington, W. Va.

Dr. Waverly R. Payne, Newport News, is the councilor for the State of Virginia.

Dr. Julian Q. Early,

Of the University of Virginia, class of '43, has located in Bristol, Va., for the practice of medicine.

XUM

Dr. Jefferson D. Kernodle

Has been appointed Instructor in Pathology, Tufts Medical School, Boston. He is also Chief of Laboratory Service at the U. S. Marine Hospital, Brighton, Boston, Massachusetts. He was formerly Pathologist and Director of the Clinical Laboratory at the Alexandria Hospital, Alexandria. Dr. Kernodle was at one time connected with the Medical College of Virginia.

Petersburg Hospital Faculty.

Dr. Edith Miller has been elected president of the Petersburg Hospital Faculty, succeeding Dr. Francis N. Taylor who has served in this position since 1946. Other officers elected at this time are Dr. William Grossmann vice-president; Dr. Julius Hopkins secretary; and Dr. K. J. Moore assistant secretary.

Convalescent Hospital for Crippled Children.

Dr. Charles J. Frankel, associate professor of orthopedic surgery at the University of Virginia, recently spoke of plans for a new convalescent hospital for crippled children to replace the old one which has been used. The new hospital will be erected on a 14-acre plot located south of Scott stadium, and it is being planned to house between 40 and 50 beds for both white and colored children.

Communicable Disease Center.

Seventeen states in which epidemics or disasters occurred during 1949 received emergency aid from the Communicable Disease Center, Public Health Service. In those states the Center assisted the state health departments in controlling the spread of disease during 21 separate epidemics and disasters. Floods predominated.

The Communicable Disease Center provided consultation service to a number of other states on routine problems other than epidemics or disasters.

The American Society for the Study of Sterility

Will hold its annual meeting June 24 and 25 at the Sir Francis Drake Hotel, San Francisco. The Society is composed of doctors engaged in the various branches of medicine, both clinical and basic sciences, who are in one manner or another interested in the general over-all problem of reproduction.

Further information in regard to this meeting may be obtained from the secretary-treasurer, Dr. Walter W. Williams, 20 Magnolia Terrace, Springfield 8, Massachusetts.

The American Academy of General Practice

Is holding its 1950 scientific assembly at the Kiel Auditorium, St. Louis, February 20-23. At this time, twenty-two of the country's leading clinicians will deliver papers. Members are urged to attend and bring a doctor friend with them.

Today's Health

Is to be the new name for *"Hygeia"*, the A.M.A. health magazine, beginning with the March 1950 issue. *Hygeia* was established in 1923, primarily for the layman, with Dr. Morris Fishbein as editor. Effective with the January issue, Dr. W. W. Bauer succeeded Dr. Fishbein, retired, with Dr. William Bolton as associate editor.

Drs. Dalton, Deyerle and May.

Dr. J. B. Dalton and Dr. Wm. Minor Deyerle announce the association of Dr. Virgil R. May, Jr., in the practice of orthopedic surgery at 1100 West Franklin Street, Richmond.

Dr. Guy R. Fisher,

Staunton, has been appointed as campaign chairman of the 1950 Cancer Crusade of the American Cancer Society in Virginia.

Waynesboro Community Hospital.

Dr. C. C. Freed has been elected president of the staff of the Waynesboro Community Hospital, with Dr. Paul A. Woods as vice-president, Dr. T. L. Hoyt secretary, and Dr. A. M. McLaughlin treasurer.

The International and Fourth American Congress on Obstetrics and Gynecology

Will hold its meeting at the Hotel Statler, New York City, on May 14-19. The chairman of the general program committee is Dr. Howard C. Taylor, Jr. A partial list of the speakers is as follows: Professor Heinrich Martius of the Department of Obstetrics and Gynecology of the University of Goettingen in Germany; Dr. Leon Gerin-Lajoie of the University of Montreal; Dr. Carlos D. Guerrero of Mexico City; Dr. Arthur T. Hertig of Harvard Medical College; Dr. Carl Kaufmann, Professor of Obstetrics and Gynecology of the Faculty of Medicine at Phillip University at Marburg in Germany; Dr. Hans Ludvig Kottmeier of the Gyncological De-

partment of the Radio-pathology Institute in Stockholm, Sweden; Dr. Laksmanaswami Mudalier of Madras University, Madras, India; Dr. Manuel Luis Perez of Buenos Aires; Dr. S. R. M. Reynolds of the Department of Embryology at the Carnegie Institute in Washington; Dr. Walter Seegers of the Department of Wayne University College of Medicine in Detroit; Dr. Harold H. Sheehan, Professor of Pathology at the School of Medicine of the University of Liverpool in England, Dr. Jean Snoek of the Hospital St. Pierre at the University of Brussels; and Dr. Herbert F. Traut of the University of California Medical School. The above speakers are to appear during the five morning general sessions and other noted men will take part in the afternoon programs.

For registration details, housing data and other aspects of the Congress, address inquiries to Dr. Fred L. Adair, 161 East Erie Street, Chicago 11, Illinois.

Medical College of Virginia News.

The following are among the promotions approved by the Board of Visitors of the College for the biennium, July 1, 1950—June 30, 1952: Dr. Samuel A. Anderson, Jr., who was promoted from assistant professor to associate professor of pediatrics; Dr. Emily Gardner from associate in the Department of Pediatrics to assistant professor in the department; Dr. Herbert C. Lee from assistant professor of surgery to associate professor of clinical surgery; Dr. Geoffrey T. Mann from assistant professor and acting head of the Department of Legal Medicine to associate professor and head of the department; Dr. Williams E. Pembleton from associate professor and acting head of the Department of Anesthesiology to professor and head of the department; Dr. Allen Pepple from assistant professor to associate professor of clinical dermatology and syphilology; Dr. Eric C. Schelin from associate in obstetrics to assistant professor of obstetrics; Dr. Henry C. Spalding from assistant professor to associate professor of obstetrics; Dr. Elam C. Toone, Jr., from assistant professor to associate professor of medicine; Dr. Edwin D. Vaughan from instructor to assistant professor of otology, rhinology and laryngology; Dr. Lawther J. Whitehead from associate professor of radiology to professor of clinical radiology; Dr. W. C. Winn from associate professor of obstetrics to professor of clinical obstetrics.

Dr. Joseph R. Kriz was made associate professor of pathology in addition to being assistant professor of clinical pathology. Dr. Simon Russi was made assistant professor of pathology as well as clinical pathology. Dr. Thomas W. Murrell, Jr., was changed from assistant professor of dermatology and syphilology to assistant professor of clinical dermatology and syphilology.

The Medical College of Virginia has instituted the system of awarding pins and buttons to its employees in recognition of ten or more years of service to the institution. Thirty-two men were awarded buttons and 57 women were given pins at Christmas parties of the institution this year. The emblem is a green cross with a gold edge, and bears the number of years of service and a distinctive stone. The total years of service represented by the awards is 1511—sixty employees of the hospital division receiving awards and 29 in the college division. Two received buttons with diamond stones, one for 40 years of service and the other 45.

Dr. John Louis Parks, professor of obstetrics and gynecology, George Washington University, School of Medicine, Washington, D. C., delivered the ninth annual Phi Beta Pi lectureship at the College on January 6th. Dr. Parks discussed "Diagnosis and Treatment of Placenta Praevia".

Phi Beta Pi which sponsored the lectureship is one of the medical fraternities at the college.

News from University of Virginia, Department of Medicine.

Under the auspices of the Postgraduate Program for House Officers, the following guest speakers have presented lectures to the faculty and student body:

Dr. W. L. Pressly of Due West, S. C., recipient of the A.M.A. General Practitioner's Award, discussed "General Practice as a Medical Specialty."

Dr. Louis K. Diamond, Harvard Medical School, spoke on the subject, "Present and Future Uses of Blood and Blood Derivatives in Modern Therapeutics".

Dr. C. N. H. Long, Dean of Medicine, Yale University, gave a lecture entitled "Recent Advances in Physiology and Biochemistry Which Bear Upon the Problem of Clinical Diabetes Mellitus".

Dr. Reginald Fitz, Assistant Dean of Medicine, Harvard Medical School, spoke on the subject, "Birdseye View of Medical Education".

XUM

Dr. F. C. Robbins, Children's Medical Center, Harvard University, gave a lecture entitled "In Vitro Cultivation of Poliomyelitis Viruses".

Dr. Daniel Blain of Washington, D. C. spoke on the subject, "What is Psychosomatic Medicine?"

Dr. Richard W. TeLinde, of the Johns Hopkins Hospital, discussed "Present Day Status of Early Diagnosis and Treatment of Cancer of the Cervix".

Dr. George T. Pack, New York, spoke on the subject: "Tumors of the Soft Somatic Tissues".

On December 5th, Alpha Omega Alpha, National Honorary Medical Fraternity, presented as guest speaker, Dr. James Barrett Brown of St. Louis, Missouri, who spoke on the "Possibilities and Limitations in Plastic Surgery."

Dr. Philip Hench, Professor of Medicine, Mayo Foundation, spoke to the faculty and student body on the subject, "Compound E", on November 2.

At the recent meeting of the Southern Surgical Association, Dr. W. Gayle Crutchfield, Professor of Neuro-Surgery, was elected first Vice-President.

Raiford Memorial Hospital.

Dr. Emmett F. Reese, Jr., of Courtland has been named the new chief of staff of the Raiford Memorial Hospital at Franklin. Dr. Reese recently celebrated his fiftieth year of medical practice in the county. At the same time, Dr. Kurt Hirsch of Franklin was elected as assistant chief of staff and Dr. W. D. Varner, also of Franklin, was elected secretary.

Dr. G. A. Shawkey,

Gate City, left the latter part of December for Philadelphia, where he is taking a residency in pediatrics at the Philadelphia General Hospital.

Dr. Paul W. Bowden

Has been appointed as assistant director of the Richmond City Health Department, according to announcement of Dr. E. M. Holmes, Jr., director. Dr. Bowden assumed office January 1. He has been connected with health work in the city and State at various times.

Dr. Cecil Joins McGuire Hospital.

Dr. Richard C. Cecil, associate professor in medicine at the Medical College of Virginia since 1944, has joined the staff of McGuire Veterans Hospital, Richmond, where he will be with the paraplegic service. He is a member of the class of '32, Medical College of Virginia.

Head Hospital Staff.

Dr. James G. Willis has been elected president of the Mary Washington Hospital in Fredericksburg, and Dr. Lloyd F. Moss has been named secretary-treasurer. They took office at the January meeting.

American Board of Ophthalmology.

Candidates for the certificate of the American Board of Ophthalmology are accepted for examination on the evidence of a Written Qualifying Test. These Tests are held annually in various parts of the United States, and applications are now being accepted for the 1951 Written Test. They will be considered in order of receipt until the quota is filled.

Practical examinations for acceptable candidates 1950 will be in Boston, May 22-26; Chicago, Oct. 2-6; West Coast, January, 1951.

The Southeastern Allergy Association

Is to hold its fifth annual meeting at the Columbia Hotel, Columbia, South Carolina, February 11 and 12, under the presidency of Dr. Oscar Swineford, Jr. of the University of Virginia, Charlottesville. The program includes two panel discussions—Pediatric Allergy and Office Procedure.

Dr. Harry Rogers of Philadelphia is to be the guest speaker at the meeting of the Columbia Medical Society on Monday, the 13th, and doctors attending the Association meeting are cordially invited to remain and hear Dr. Rogers.

A Seminar in Otolaryngology and Ophthalmology,

Is to be held April 17-21 by the New York Polyclinic Medical School and Hospital in New York. This will give a review of recent advances in the diagnosis and treatment of the more common disorders in the fields of the above named specialities, comprising lectures, motion pictures and demonstrations in the clinics, operating rooms and dissecting room. There will be a number of guest speakers in addition to members of the staff.

More detailed information may be secured from Dr. David N. Barrows, Medical Executive Officer, New York Polyclinic Medical School and Hospital, 345 West 50th Street, New York 19, N. Y.

Dr. E. M. Henderson

Is opening his office at Machipongo where he plans to engage in general practice with a sub-specialty of

pediatrics. Dr. Henderson was a graduate of the University of Virginia Department of Medicine in 1942 and served with the Navy until recently discharged.

Dr. E. F. Reese, III,

Has moved his office from Franklin to Courtland, where he is engaged in general practice with his father, Dr. E. F. Reese, Jr.

The Gill Memorial Eye, Ear and Throat Hospital

Announces the association of Dr. Frederick D. White and Dr. Houston L. Bell in the department of ophthalmology and oto-laryngology.

Diplomates in Proctology.

Dr. C. C. Chewning and Dr. Robert V. Terrell, both of Richmond, have successfully passed the examinations and have been certified as diplomates in proctology.

The National Gastroenterological Association

Announces its Annual Cash Prize Award Contest for 1950. One hundred dollars and a Certificate of Merit will be given for the best unpublished contribution on Gastroenterology or allied subjects. Certificates will also be awarded those physicians whose contributions are deemed worthy.

Contestants residing in the United States must be members of the American Medical Association. The winning contribution will be selected by a board of impartial judges and the award is to be made at the Annual Convention Banquet of the National Gastroenterological Association in October of 1950. The Association reserves the exclusive right of publishing the winning contribution, and those receiving Certificates of Merit, in its official publication, *The Review of Gastroenterology.*

All entries for the 1950 prize should be limited to 5,000 words, be typewritten in English, prepared in manuscript form, submitted in five copies accompanied by an entry letter, and must be received not later than 1 June 1950. Entries should be addressed to the National Gastroenterological Association, 1819 Broadway, New York 23, N. Y.

National Society for Crippled Children and Adults.

A survey among physically handicapped adults who are in need of specially designed homes that will help to restore them to useful activities is being conducted by this Society. They state there are approximately five million handicapped homemakers in the U. S. today, many of whom could be restored to normal, useful lives if they lived in properly designed homes that would include such functional units as ramps instead of steps, wide passages for wheel chairs, color schemes for ease in cleaning, facilities built for chair height, safety features, etc.

The National Society, the Easter Seal Agency, has embarked upon a program designed to find out what the housing needs are for handicapped homemakers. From this survey, the Society will prepare a digest of suggestions and ideas for designers, engineers, and architects who will work on this model home project. Handicapped adults, both men and women, who are interested in participating in this mail survey will receive a questionnaire on request from the National Society for Crippled Children and Adults, 11 South La Salle Street, Chicago 3, Illinois. They are also interested in receiving the names and addresses of handicapped adults who will be asked to take part in this survey.

Wanted—

Technician, registered or eligible for registry for clinical laboratory in 150-bed hospital in Virginia. Full time pathologist, five technicians. Salary, $185.00 with meals and laundry. Apply C.O., care this journal, 1200 East Clay Street, Richmond. (*Adv.*)

Office Space Available.

Office space is available for two doctors in the corner building at 932 West Franklin Street, Richmond. Call 4-3380. (*Adv.*)

OBITUARIES

Dr. Hugh Henry Trout,

Roanoke, recognized as one of the medical leaders in Virginia, and a former president of the Medical Society of Virginia, died January 13th of coronary thrombosis. A full notice on Dr. Trout appears in the editorial pages of this issue of the MONTHLY.

Dr. Benjamin Harris Tatum,

Clifton Forge, died at his home there on January the 7th, at the age of 79. He was a native of Franklin County, this State, and a graduate in medicine

from the University of Maryland, Baltimore, in 1891. He located in Clifton Forge in 1894 and continued practice there until a year ago. He was one of the original members of the "Fifty Year Club" of the Medical Society of Virginia in 1948. His daughter and a sister survive him.

Dr. Alvah Stone.

By the death of Dr. Alvah Stone on December 24, 1949, at the age of 80, the Roanoke Academy of Medicine lost one of its outstanding figures.

Dr. Stone graduated in medicine at the Louisville Medical College in 1891. In active practice for 60 years, he located first in Penhook, Franklin County, then in Worth, West Virginia. He came to Roanoke in 1907. Dr. Stone was for many years a member of the Medical Society of Virginia, and of the Roanoke Academy of Medicine, of which he was a past president. He became a member of the "Fifty Year Club" of the State Society at its 1948 meeting. He is survived by his wife, a son, and three daughters.

In a memorial ceremony at the regular meeting on January 9, the Roanoke Academy of Medicine expressed its sorrow and regret upon the loss of Dr. Stone.

Dr. Stone's long life full of action and achievement, devotion to duty to patients and friends, and years of influence in the Academy, was a constant inspiration to all of the members of the Academy and indeed to all who were privileged to know him. His kindliness toward the younger physicians will be especially remembered and appreciated. The Roanoke Academy of Medicine feels keenly the loss of this beloved physician.

WILLIAM H. KAUFMAN, M. D.
Secretary-Treasurer
Roanoke Academy of Medicine

Dr. Sidney M. Robinson,

Of Woodlawn, died in a Roanoke Hospital, December 22, at the age of 89. He graduated in medicine from the Medical College of Virginia in 1886 and joined the Medical Society of Virginia the same year. He was among those made members of the first "Fifty Year Club" of the Society in 1948. He was formerly a member of the House of Delegates of Virginia and had been active in civic affairs of his community. He practiced medicine in Carroll County for 60 years and was a member of the Carroll County Health Board for sometime. He is survived by his wife and two children.

An Appreciation of Dr. Yokeley.

Samuel Hill Yokeley, back two weeks from a Class reunion in Richmond, from which he rushed back after one day account of only other doctor in the village being ill, died in twenty-four hours from coronary occlusion, June 24, 1949. He was a graduate from Wake Forest, M.A., 1905, and the University College of Medicine, Richmond, as an M.D., 1909. Interned in West Virginia and then practiced at Buena Vista, until 1912, when he located at Meadow View, where he did a large rural practice. From the wide expanses of the rich hills and plateaus around, a big crowd came for his funeral, attesting devotion of the clientele which he served long and well as the best type of general practitioner.

Dr. Yokeley's friends were all those who knew him and the writer can think of no doctor who has served better for the forty years of his professional life.

T. J. TUDOR, M.D.

Dr. John David Miller.

We have just learned of the death of Dr. Miller of Bridgewater, which occurred September 19, as a result of hypertension and arteriosclerosis. He was seventy-nine years of age and graduated in medicine from the Medical College of Virginia in 1906. He had been a member of the Medical Society of Virginia for a number of years.

Dr. G. Blight Harrison.

The Northern Neck Medical Society, at a recent meeting, passed the following resolutions on the death on May 17, 1949, of Dr. Harrison, a former president:

BE IT RESOLVED that his untimely death has brought a feeling of genuine sorrow and great personal loss to the Northern Neck Medical Society and to his host of friends throughout the state. As a physician and soldier he was outstanding, his wit, humanity, kindness and personal magnetism endeared him to all and it can in truth be recorded of him that "None knew him but to love him, none named him but to praise", that his community has lost a valuable citizen and the medical profession a well beloved physician.

That the Northern Neck Medical Society wishes to express to the family of Dr. Harrison, their sincere sorrow in his sudden death.

BE IT FURTHER RESOLVED that a copy of these resolutions be sent to his family, *The Fredericksburg Free Lance-Star*, recorded in the minutes of the Northern Neck Medical Society, and be sent to the VIRGINIA MEDICAL MONTHLY.

C. T. PEIRCE, *Chairman.*